

APPENDIX A

DEFINITION OF TERMS

APPENDIX A - DEFINITION OF TERMS

Add-on control device - Any equipment that reduces the quantity of a pollutant that is emitted to the air. The device may destroy or secure the pollutant for subsequent recovery. Includes, but is not limited to, incinerators, carbon adsorbers, and condensers. The control device usually does not affect the process being controlled and thus is "add-on" technology as opposed to a scheme to control pollution through making some alteration to the basic process. Spray booths, transfer equipment, and ductwork are not considered in and of themselves add-on control devices.

Add-on control device destruction efficiency - The ratio of the (pollutant) emissions recovered or destroyed by an add-on control device to the total (pollutant) emissions that are introduced to the control device, expressed as a percentage.

Adhesive - A substance capable of holding materials together by surface attachment. Adhesives are considered coatings. Various descriptive adjectives are used with the term adhesive to indicate certain characteristics: physical (liquid adhesive, tape adhesive), chemical type (silicate adhesive, resin adhesive), materials bonded (paper adhesive), and conditions of use (hot-set adhesive).

Aerosol coating - A hand held, pressurized, non-refillable container that expels an adhesive or a coating in a finely divided spray when a valve on the container is depressed.

Air-assisted airless spray - Paint spray application system using fluid pressure to atomize the paint and lower pressure air to adjust the shape of the fan pattern.

Air dried coatings - Coatings which are not heated above 194 degrees Fahrenheit (90 degrees Celsius) for coating or drying. Air dried coatings also include forced air dried coatings.

Airless spray - Paint spray application system using high fluid pressure to atomize paint by forcing it through a small orifice.

As applied - The condition of a coating at the time of application to the substrate, including any added thinning solvent. Multi-component coatings are supplied as individual components that have to be mixed prior to application.

As supplied - The condition of a coating as purchased and delivered to the user. Multi-component coatings are supplied as separate components and later mixed according to manufacturers instructions (e.g., 1:3). The mixing ratio affects the pollutant emissions from the final coating product (i.e., the as-applied product).

Baked coatings - Coatings that are cured or dried above an oven air temperature of 194 degrees Fahrenheit (90 degrees Celsius).

Basecoat - A coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other opaque finishing materials and is usually topcoated for protection.

Brush coating - Manual application of coating using brushes and rollers.

Certified product data sheet (CPDS) - Documentation furnished by coating or adhesive suppliers or an outside laboratory that provides the HAP content of a finishing material, contact adhesive, or solvent, by percent weight, measured using the EPA Method 311 or an equivalent or alternative method; the solids content of a finishing material or contact adhesive by percent weight, determined using data from the EPA Method 24, or an alternative or equivalent method; and the density, measured by EPA Method 24 or an alternative or equivalent method.

Clean Air Act (CAA) - The Clean Air Act, as amended in November 1990, provides the foundation for EPA's efforts to improve air quality. The Clean Air Act, building on earlier legislation, was passed in 1970.

Cleaning activity - Action used to clean a substrate. This term focuses on how the substrate is being cleaned and includes actions such as wiping, brushing, flushing, spraying, or dipping.

Cleaning solvent - A liquid material used for hand wipe, spray gun, or flush cleaning.

Clearcoat - A transparent coating usually applied over a colored opaque coat to give improved gloss and protection to the color coat below. In some cases a clear coat simply refers to any transparent coating without regard to the substrate.

Coating - Any material that can be applied as a thin layer to a substrate and which cures to form a continuous solid film for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, caulks, maskants, and temporary protective coatings.

Colorcoat - A coat of colored material, usually opaque, applied to the substrate and often covered with a clear or topcoat.

Conventional air spray - A paint spray application system using air at high velocity and pressure to atomize the paint. Airless and air-assisted airless spray technologies are not conventional air spray because the coating is not atomized by mixing it with compressed air. Electrostatic spray technology is also not considered conventional air spray because an electrostatic charge is employed to attract the coating to the plastic part.

Cure - The process by which the coating is converted into a solid film. During curing, solvent is evaporated.

Curing (drying) oven - A chamber that uses heat to bake, cure, polymerize, or dry a wet surface coating. If the coating contains volatile solvents, the volatile portion is evaporated in the oven.

Electroless plating - Process of applying a film of metallic coating to plastic surfaces, involving immersion of the part in solution after pretreatment. Metallic coatings are formed as a result of a chemical reaction between the reducing agent present in the solution and metal ions. No electric currents are used, as opposed to electroplating which does use current.

Electronic beam - A method of curing coatings which uses high energy radiation to crosslink polymers.

Electroplating - Process of depositing a layer of metal onto plastic surfaces using an electric current. The plastic surface must be made conductive in order to be electrolytically plated. This is accomplished by applying a thin layer of electroless plating or by the use of substrate additives such as carbon filler.

Electrostatic spray - Method of spray application of coating where an electrostatic potential is created between the part to be coated and the paint particles.

EMI/RFI (Electromagnetic Interference/Radio Frequency Interference) coating/shielding - Coating used to attenuate EMI/RFI signals that would otherwise pass through plastic housings.

Emission - The release or discharge, whether directly or indirectly, of HAP, VOC, or other pollutants into the ambient air.

Facility - All contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

Flash-off zone - Area within a coating facility where solvents evaporate from the coated substrate during intervals between coats or before the coated part enters a curing oven.

Flush cleaning - Removal of contaminants such as dirt, grease, oil, and coatings from a surface or coating equipment by passing solvent over, into, or through the item being cleaned. The solvent may simply be poured into the item being cleaned and then drained, or assisted by air or hydraulic pressure, or by pumping. Hand wipe cleaning operations are not included.

Formulation - The process of creating a coating from its basic components (e.g., resin, catalyst, pigment); often performed in creating batches of speciality coatings.

Hand wipe cleaning operation - Removing contaminants such as dirt, grease, oil, and coatings by physically rubbing a surface with a material such as a rag, paper, or cotton swab that has been moistened with a cleaning solvent.

HAP (Hazardous Air Pollutant) - Any air pollutant listed in or pursuant to Section 112(b) of the Clean Air Act.

High-bake coatings - Coatings designed to cure at temperatures above 194 degrees Fahrenheit.

High solids coatings - Solvent-borne coatings that contain greater than 50% solids by volume or greater than 6% (69% for baked coatings) solids by weight.

High-volume, low-pressure (HVLP) spray - Spray equipment that is used to apply coating by means of a spray gun that operates at 10.0 psig of atomizing air pressure or less at the air cap.

Low-bake coatings - Coatings designed to cure at lower temperatures (below 194 degrees Fahrenheit).

Low solvent coating - A coating which contains a lower amount of VOC than conventional organic solvent-borne coatings. Low solvent coatings usually fall into three major groups of higher solids, waterborne, or powder coatings.

MACT - Maximum Achievable Control Technology, as specified in Section 112 of the Clean Air Act.

Major source - Any source that emits or has the potential to emit, in the aggregate, 10 tons per year or more of any HAP or 25 tons per year or more of any combination of HAP material.

Material safety data sheet (MSDS) - The documentation required for hazardous chemicals by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910) for a solvent, cleaning material, contact adhesive, coating, or other material that identifies select reportable hazardous ingredients of the material, safety and health considerations, and handling procedures.

Metallizing - Application of a thin coating of metal to a non-metallic surface. It may be done by chemical deposition or by exposing the surface to vaporized metal in a vacuum chamber.

Mixing - Combining two or more components to create an as applied coating, such as mixing a resin and a catalyst in a two-component coating.

Original manufacturers specifications - Data on a material (e.g., a coating) supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material. Original manufacturers specification data may include information on density, VOC content, HAP content and solids content.

Overspray - Any portion of a spray applied coating that does not land on a part and which is deposited on the surrounding surfaces.

Plastic part - A piece made from a substance that has been formed from resin through the application of pressure or heat or both.

Plastic parts coating operations - Those activities in which a coating is applied to a plastic part and is subsequently air dried, cured in an oven, or cured by radiation.

Pollution prevention - Practices or process changes that decrease or eliminate the creation of emissions (or wastes) at the source of pollution (e.g., a paint spray booth). Such prevention techniques include use of new materials, modification of equipment, and changes in work practices that result in emission reductions at the source.

Powder coating - Any coating applied as a dry (without solvent or other carrier), finely divided solid which adheres to the substrate as a continuous film when melted and fused.

Primer - The first layer and any subsequent layers of identically formulated coating applied to the surface to be coated. Primers are typically used for corrosion prevention, protection from the environment, functional fluid resistance, and adhesion of subsequent coatings.

Radiation cure - Method of curing or drying coatings by exposure to electromagnetic waves or particles such as infrared (IR), ultraviolet (UV), or electron beam.

Roll coating - Method used to apply paints to raised designs or letters.

SCC Codes - Source Category Classification Codes, eight digit codes used to categorize individual processes or unit operations which generate air emissions. There is an entire series of SCC codes that specifically describes the coating and painting operations of plastics, 402-xxx-xxx.

SIC Codes - Standard Industrial Classification Codes, a numerical identification system developed by the U.S. Government for statistical purposes and widely used by business firms. Industries are grouped into similar categories and each category is given a number representing the category.

Sludge - The waste solids generated from any process (e.g., surface preparation, coating, mixing, etc.) that it is necessary to have disposed, either on-site or off-site.

Solvent - The liquid or blend of liquids used to dissolve or disperse the film forming particles in a coating and which evaporate during drying. A true solvent is a single liquid that can dissolve the coating. Solvents may also have non-coating uses, such as surface cleaning, equipment cleaning, and solvent bonding. Solvent is often used to describe terpenes, hydrocarbons, oxygenated compounds, furans, nitroparaffins, and chlorinated solvents.

Solvent-borne - Coatings in which volatile organic compounds are the major solvent or dispersant.

Specialty coatings - Coatings which have unusual job performance requirements. Specialty coatings may also include, but are not limited to, coatings that in some cases the technology is not available to reformulate them with reduced volatile organic compound (VOC) content and coatings which may be used in such small quantities that reformulation would not be cost effective.

Speciated components - All constituents, organic or inorganic, that comprise a coating. Includes, but is not limited to, aliphatic solvents, amino resins, aromatic solvents, chlorinated solvents, halogenated solvents, pigment, and inhibitors.

Spray booth - An enclosed, ventilated area used for spray painting.

Spray gun - A device that atomizes a coating or other material and projects the particulates onto a substrate.

Substrate - The surface onto which a coating or contact adhesive is applied (or into which a coating or contact adhesive is impregnated).

Surface preparation - The removal of contaminants from the surface of a substrate or component or the activation or reactivation of the surface in preparation for the application of a coating.

Surface treating - Any method of treating a material so as to alter the surface and render it receptive to inks, paints, lacquers, and adhesives, such as chemical flame and electronic treating.

Texture coat - Coating which is applied to impart a texture to a substrate for decorative or functional purposes.

Thermoplastic - Resin capable of being repeatedly softened by heat and hardened by cooling. These materials, when heated, undergo a substantially physical rather than chemical change so they may be reground and reused. Thermoplastic resins can be completely dissolved with appropriate solvents. Typical of the thermoplastic family are the styrene polymers and copolymers, acrylics, cellulose, polyethylenes, polypropylene, vinyls, nylons, and various fluorocarbon materials.

Thermoset - Resin that, when first cured by application of heat or chemical means, changes into a substantially infusible and insoluble material. Thermosetting resins will soften but will not dissolve in any solvents. Typical of the thermoset family are the amines (melamine and urea), most polyesters, alkyds, epoxies, and phenolics.

Thinner (thinning solvent) - A volatile liquid that is used to dilute coatings to reduce viscosity, color strength, and solids, or to modify drying conditions. Thinners evaporate before or during the cure of a film.

Thinning (reducing) - The process of adding thinner to a coating. This liquid may be solvent, diluent, or mixtures of both.

Topcoat - A coating that is applied over a primer on a part, product, or component for appearance or protection. Topcoats are typically the last coat applied in a coating system.

Touch up and repair operation - That portion of the coating operation that is the incidental application of coating used to cover minor imperfections in the coating finish or to achieve complete coverage. This definition includes out-of-sequence or out-of-cycle coating.

Transfer efficiency - The ratio of the amount of solids adhering to the surface of a plastic part to the total amount of coating solids used in the application process, expressed as a percentage.

UV (ultraviolet) curing - Utilization of ultraviolet energy to dry or bake coatings applied to plastic substrates.

Vacuum metallizing - Process in which surfaces are thinly coated with metal by exposing them to the vapor of metal that has been evaporated under vacuum.

Vapor curing - Method of drying or curing coatings by exposure to volatile amines. Exposure to volatile amines unblocks a urethane resin curing mechanism. The two approaches to vapor curing (vapor exposure (VC) and vapor injection (VIC)) differ in whether the paint is applied and passed into a amines environment (e.g., chamber, air locks) or whether the amines vapor is injected into the paint spray stream.

VOC (Volatile Organic Compound) - Any compound defined as VOC in 40 CFR 51.100(s). This includes any organic compound other than those determined by the EPA to be an exempt compound.

Waste water - Any process waters or cleaning waters should be considered waste water at the point/time they leave the process unit.

Waterborne coatings - Coatings in which water is the major solvent or dispersant (contains more than 5% water by weight as applied in its volatile fraction). Solvents or dispersants include water soluble polymers (water reducible), water soluble colloidal dispersions, and emulsions (including latex).

Water wash spray booth - A spray booth in which water is used to collect overspray. Ventilation air is drawn through the water and paint overspray is captured in the water from which it can be recovered as sludge.

Wet-on-wet finishing - Applying a new coat over an earlier applied coat that has been allowed to flash-off but not to cure.

Zinc-arc spray - Process by which metallic zinc is applied to plastic to provide a conductive surface or shielding.

APPENDIX B

SYNOPSIS OF ALTERNATIVE CONTROL TECHNIQUES DOCUMENT FOR SURFACE COATING OF PLASTIC PARTS



EASTERN RESEARCH GROUP, INC.

MEMORANDUM

TO: Ellen Ducey; U.S. Environmental Protection Agency, Coatings and Consumer Products Group (CCPG)

FROM: Michael Bryant; Eastern Research Group (ERG)

DATE: October 23, 1997

SUBJECT: Summary of the *Alternative Control Techniques Document for Surface Coating of Plastic Parts*

1.0 BACKGROUND

- U.S. Environmental Protection Agency. February 1994. *Alternative Control Techniques Document: Surface Coating of Automotive/Transportation and Business/Machine Plastic Parts*. EPA-453/R-94-017.
- Describes the purpose and the contents of the document.
- Explains that the document is to provide information on alternative control techniques (ACT) for volatile organic compound (VOC) emissions from the surface coating of plastic parts for automotive/ transportation and business machine/electronic products.
- States that the document contains information on emissions, controls, control options, and costs that States can use in developing rules based on reasonably available control technology (RACT).
- Stresses that the document presents options only, and does not contain a recommendation on RACT.

2.0 PROCESS DESCRIPTION

- 2.1 Presents an overview of the three sectors of the plastic parts surface coating industry: 1. automotive/transportation, 2. business machines, and 3. miscellaneous.
- 2.2
- Describes the two main categories of resins used to produce plastic parts (thermoplastic and thermoset resins).

- Examines the characteristics of the substrates (impact resistance, durability, heat sensitivity, chemical stability, flexibility, etc.).
 - Lists the methods used to produce parts (machining, casting, or compression/injection molding).
 - Presents examples of 21 thermoplastic parts and their applications and characteristics in Table 2-1 of this section.
 - Lists the same information for five thermoset resins in Table 2-2.
- 2.3 • Describes coating characteristics and limitations of waterborne and higher-solid coatings.
- 2.4 • Describes the coating process using the three basic steps for coating plastic parts.
- 1. Surface preparation--describes cleaning, gas out, sanding, puttying, washing, etc.
 - 2. Coating--describes using conventional air, airless, air-assisted airless, high-volume low-pressure (HVLP), electrostatic, and zinc arc spray.
 - 3. Curing--describes flash-off zone, curing oven, and cool-down zones.
- 2.5 • Details coating selection criteria for the three sectors.
- 1. The automotive/transportation segment--discusses appearance and protection, part location/visibility, specialty coatings, and the use of waterborne and higher solids.
 - 2. The business machine segment--discusses appearance, protection from stress, & EMI/RFI protection.
 - 3. The miscellaneous segment--discusses appearance, protection, impact-resistance, toxicity for toys, durability, etc.
- 2.6 • Summarizes Federal (40 CFR Part 60, Subpart TTT) and State emission regulations that apply to plastic parts coating.
- Summarizes State regulations for CA (South Coast & Bay Area), MD, MI, MO, and NY in Table 2.5 of this section.
- 2.7 • Describes, in 54 pages of text and tables, the model plants developed to estimate baseline emissions in the plastic parts surface coating industry.
- Develops model plants for the automotive/transportation, and business machines sectors--no specific model plants, or control alternatives are provided for the miscellaneous sector.

- Defines these model plants using: coating type, facility size, degree of automation and robotics, type of substrates painted, parts end use, and types of spray guns and spray booths.
- Divides the automotive/transportation sector into four model plant sizes.
- Evaluates the four automotive/transportation model plant sizes by substrates/end uses interior, exterior flexible, and exterior non-flexible for a total of 12 model plants.
- Divides the business machines into only three model plant sizes.
- Summarizes the details of the model plants in Table 2-6 of this section.

3.0 EMISSION CONTROL TECHNIQUES

- Describes using three techniques to control VOC emissions from plastic parts surface coating: (1) lower-VOC coatings, (2) process modifications, and (3) add-on controls.
- Discusses lower-VOC coatings including: (1) waterborne, (2) higher solids, and (3) non-VOC emitting coating that include Zinc-arc spray, electroless plating, vacuum metallizing, sputtering, powder coats, UV curing, and electronic beam and vapor cure coatings.
- List examples of process modifications to reduce VOC emissions including the use of molded-in color and texture, and using conductive plastics or metal inserts for EMI/RFI shielding.
- Describes control equipment including carbon absorption, incinerators (thermal and catalytic), spray booth recirculation, and condensation.

4.0 ENVIRONMENTAL IMPACT

- Presents a discussion of the environmental impacts associated with the control of VOC emissions from plastic parts surface coating operations.
- Utilizes the model plants developed in Chapter 2.0 for this discussion.

4.1

- Presents three levels for controlling VOC emissions.

- Defines control level 1 as a reformulation using waterborne coatings.
- Defines control level 2 as a reformulation using higher-solids coatings.
- Defines control level 3 as thermal incineration.

- 4.2
 - Discusses air emissions points.
 - States the majority of the VOC emissions occur in the spray booth (80 to 90 percent, according to some estimates).
 - Relates that other VOC emissions occur through cleaning efforts and proprietary conductive coating.
 - Describes other air emissions produced during EMI/RFI shielding and metallizing.
 - Lists the following hazardous air pollutants (HAP's) that are typically emitted during the coating process: formaldehyde, methanol, methyl ethyl ketone, ethyl benzene, ethylene glycol, methyl isobutyl ketone, toluene, xylene, and glycol ethers.
- 4.3
 - Examines water quality issues at plastic parts surface coating facilities.
 - Describes the generation of waste from waterwash spray booths, washing cycles, and plating.
 - Discusses the methods currently employed by the coating industry to handle wastewater including sanitary sewers, recycling, incineration, and hauling to licensed disposal sites.
- 4.4
 - Describes solid waste impacts generated by the surface coating process.
 - Lists coating overspray as the cause (dirty filters and sludge from waterwash spray booths).
- 4.5
 - Discusses energy consumption.
 - Stresses that the lower temperatures required for plastic curing make energy consumption lower than for similar metal coating processes.
 - Describes that add-on controls or new application with better transfer efficiencies could require additional energy in the form of electricity or fuel consumption.
- 4.6
 - Addresses health and safety issues.
 - Describes worker exposure, and risk of shock/explosion from electrostatic spray devices.
- 4.7
 - Discusses other environmental concerns/impacts.

- Addresses the consumption of steel and other raw materials required to manufacture add-on control devices.
- Stresses that these impacts are insignificant compared to current coating industry use of these resources.

5.0 CONTROL COSTS ANALYSIS

- Presents the cost, in first-quarter 1990 dollars, associated with the three VOC emission control options described in Chapter 4.0.
 - Defines control level 1 as a reformulation using waterborne coatings, control level 2 as a reformulation using higher-solids coatings, and control level 3 as thermal incineration.
- 5.1
- Explains cost derivations for thermal incineration (predominant type of add-on control) and for substituting currently used coatings with coatings having lower VOC and/or higher solid content for the automobile/transportation sector.
 - Summarizes the cost effectiveness of applying thermal incineration to the four model plants in the automobile/transportation sector in Table 5-5 of this section.
 - Shows the VOC level and cost effectiveness of each coating for the baseline and both control options associated with substituting lower-VOC coatings in the automobile/transportation sector in Table 5-6.
 - Details the cost effectiveness of applying reformulation control levels to the automobile/transportation model plants in Table 5-7.
- 5.2
- Explains cost derivations for thermal incineration and for substituting currently used coatings with coatings having lower VOC and/or higher solid content for the business machine sector.
 - Summarizes the cost effectiveness of applying thermal incineration at the three business machine model plants in Table 5-10 of this section.
 - Shows the VOC level and cost effectiveness of each coating for the baseline and both control options associated with substituting lower-VOC coatings in the business machine sector in Table 5-11.
 - Details the cost effectiveness of applying reformulation control levels to the business machine model plants in Table 5-12.

6.0 ADDITIONAL TECHNICAL INFORMATION

- Presents additional technical information to supplement the information on low VOC content coatings presented in Chapters 3, 4, and 5.
- 6.1
- Presents additional information on exterior coatings for automobile/transportation parts.
 - States that information on lower VOC exterior coatings in control level 1 (reformulation using waterborne coatings) and control level 2 (reformulation using higher-solids coatings) were based on out-of-date or incorrect data (low-bake clearcoat not as-applied).
 - Details a new exterior coating option (control level 4) for exterior automotive coatings in Table 6-1 of this section that emphasizes that red and black colorants, and flexible/non-flexible primers require higher VOC limits.
- 6.2
- Presents additional information on coatings for business machine parts.
 - Describes the performance requirement of machines used in hostile factory or field environments.
 - Requires a more durable coating (higher VOC coating) not needed in the home/office environment.

Appendices

Appendix A--List of Contacts (no phone numbers are listed).

Appendix B--Emission Calculations.

Appendix C--Cost Calculations.

Appendix D--CTG Model Rule for Surface Coating of Plastic Parts.

- Outlines a sample rule to limit VOC emissions.
- *Specifies no emission limits because the document does not contain a recommendation on RACT as stated in Chapter 1.*
- Describes sections on applicability, definitions, emission standards, compliance demonstration, monitoring, recordkeeping and reporting.
- Defines applicability to interior and exterior parts in autos, trucks (lt, med, heavy), lg/sm farm machinery, construction equipment, vans, buses, and other mobile equipment in the Automobile sector.

- Defines applicability to housing and exterior parts for business and commercial machines including, but not limited to, computers, copy machines, typewriters, medical equipment, and entertainment equipment.
- Regulates the automobile coating categories on location (interior & exterior), flexible/non-flexible, curing temperature (high bake/low bake) and special uses (Auto Specialty)--refer to Table 2-5 Michigan Rule 632 in Chapter 2.0.
- Regulates the business machine coating categories by use: primer, colorcoat, texture coat, EMI/RFI shielding, and specialty.

APPENDIX C
STAKEHOLDERS MEETING SUMMARIES

**Meeting for Surface Coating
of Plastic Parts**
Meeting Summary - June 19, 1997

1.0 PURPOSE

This meeting was the initial stakeholders meeting in the beginning stages of the MACT development process for the surface coating of plastic parts. The agenda for the meeting is included as attachment A.

2.0 PLACE AND DATE

U.S. EPA Environmental Research Center
Alexander Drive
Research Triangle Park, NC

June 19, 1997
9:00 a.m.

3.0 ATTENDEES

The attendees, along with those who participated through a conference call, are listed in table 1.

Although a show of hands indicated a majority of participants were involved in the Automobile/Heavy Truck sector, a few representatives of Business Machines and Miscellaneous Plastic Parts sectors also attended.

4.0 DISCUSSION

The Environmental Protection Agency (EPA) representative opened the meeting with introductions. The EPA summarized the goals for the first few months of the MACT development process, as shown in attachment B, and listed the long term schedule for the development of the MACT rule:

MACT Long Term Schedule

| | |
|---------------------------------------|---------|
| Complete data gathering | 12/98 |
| Determine MACT floor & select options | 2/99 |
| Prepare draft proposal | 6/99 |
| Proposal in Federal Register | 12/99 |
| Final Rule in Federal Register | 11/2000 |

Attendees in the Miscellaneous Metal Parts stakeholder meeting on June 18, 1997 had raised concerns over the P-MACT process and the October 1997 time frame for reaching decisions. As shown in attachment B and the long term schedule above, EPA restated that P-MACT is the earliest stage of rule development and is a vehicle to identify issues and to start the data collection phase of rule development. The EPA asked if industry participants who had not attended the Miscellaneous Metal Parts meeting had questions or comments about the P-MACT process. There were none at this time.

Sections 4.1 to 4.5 of this memorandum summarize the discussion under each agenda topic (attachment A). Section 5 summarizes the issues noted for further data collection or discussion.

4.1 Meeting Objectives

The EPA stated the meeting objectives as follows: review EPA preliminary data collection efforts, identify sources to help fill remaining data gaps, present options for questionnaires, and discuss the formation of issue work groups in the future.

4.2 Understanding of Industry Sectors

The EPA described the four major sectors covered the plastic parts surface coating source category: (1) Automobile, Light Duty Truck, and Other Automotive; (2) Heavy Duty Truck; (3) Business Machines; and (4) Miscellaneous Plastic Parts. The EPA's characterizations of the automobile and light duty truck sector, business machines sector, and miscellaneous plastic parts sector are taken from the Alternative Control Techniques Document: Surface Coating of Automotive/Transportation and Business Machine Plastic Parts (ACT). Information gathered on EPA's recent site visits to three heavy duty truck manufacturing facilities was used to describe the heavy duty truck sector. Miscellaneous plastic parts is currently the least well characterized

sector. Although EPA has contacted several toy and other miscellaneous part manufacturers, these contacts have explained that their operations consist of importing finished products or using plastics with molded-in colors. The EPA asked the meeting participants for assistance in identifying coating operations or trade associations in the miscellaneous sector. Industry participants agreed that it is a difficult task to characterize the miscellaneous sector. No one was aware of any relevant trade associations.

One industry representative voiced concern over the inclusion in this regulation of the application of inks for logos on plastic containers. The EPA responded that the Plastic Parts surface coating rule will not cover the use of inks. This issue might require coordination and discussion with other MACT standard projects.

Attendees indicated that EPA's list of suggested coating categories is incomplete. Automobile, Light Duty Truck, and Other Automotive should include a no bake category for interior and exterior coatings and a radiation curing category for headlights and wheel covers. Heavy Duty Truck should include categories for stripe coatings for "wet on wet" and "wet on dry" applications, pretreatment coatings, UV coatings, and repair coats. Business Machines should include categories for reconditioning and repair operations. Miscellaneous Plastic Parts should differentiate between inks and coatings. The EPA stressed the need to identify more representatives from the business machine and miscellaneous sectors to contribute to their understanding of these coating categories and their respective technologies.

4.3 Data Collection Status Report

The EPA's contractor for the development of plastic parts regulations, Eastern Research Group (ERG) described data collection activities to date for plastic parts regulation development. ERG had performed searches of the following databases: the Aerometric Information Retrieval System (AIRS), the Toxic Release Inventory (TRI), and the Source Test Information Retrieval System (STIRS). In addition, ERG presented a summary of plastic parts surface coating rules in 13 States. The meeting handouts included examples of TRI data, AIRS data, and a draft summary of the State rules.

Some industry representatives raised serious concerns about the TRI database, describing a search of TRI as "not a worthwhile activity." Some attendees raised the concern that Material Safety Data Sheets (MSDS) are used to develop databases such as TRI. The participants noted

that the MSDS are only "modestly accurate," and hazardous air pollutants (HAPs) are not necessarily speciated.

A representative from the automotive sector pointed out that the standard industrial classification (SIC) 3714-Motor Vehicle Parts and Accessories was missing from EPA's SIC list.

Attendees asked for clarification on the inclusion of source category codes (SCC) regarding combustion in the plastic parts MACT rule. The EPA responded that Dave Salman is currently investigating the overlap with the Industrial Combustion Coordinated Rulemaking (ICCR) Committee. He will report his findings to the eight P-MACT groups.

Industry representatives suggested several universities that have excellent polymer programs that may provide EPA with more information about coating technology: (1) University of Akron, (2) University of Cincinnati, (3) Case Western, and (4) University of Massachusetts.

In conclusion, the attendees indicated that these data bases are incomplete and of limited use for characterizing emissions from the plastic parts coating industry. The EPA agreed that these data bases are not intended to provide a complete emissions profile of the plastic parts industry. Rather, they provide initial indications of some of the species emitted and their magnitudes, and names and locations of plastic parts coating facilities.

4.4 Questionnaires

The EPA briefly discussed the regulatory requirements, the general structure, and the options for sending out questionnaires to industry. The EPA briefly explained their procedures for handling data that are classified as confidential. The EPA informed the group about the requirement for Office of Management and Budget (OMB) approval of questionnaires that go to more than nine respondents and the possibility of using the generic MACT questionnaire that has already been approved by OMB..

The EPA's draft site-visit questionnaire was presented as an example of the types of information likely to be regulated. Discussion of the draft questionnaire raised several issues. These issues are summarized as follows.

The participants see a clear need to coordinate the development of the eight MACT standards, particularly where there is a potential for overlap in standards applicability. The EPA stated that the eight project leads meet on a regular basis and that they are tracking overlapping issues. In addition, efforts are being made to reduce the participation and information collection

burden on the industries by coordinating site visits and requests for data. For example, the miscellaneous metal parts and plastic parts, an groups are coordinating their site visits and development of their questionnaires.

An industry representative asked about the expected response time for questionnaires. The EPA stated that six weeks to two months is generally allowed for completion. Some industry representatives noted that six weeks is not enough time for extensive questionnaires. Particular concern was expressed for small businesses.

Attendees raised concerns that response to a questionnaire would be used by the enforcement branch at EPA. The EPA responded that, although the Emissions Standards Division (ESD) and the Office of Enforcement and Compliance Assurance (OECA) both gather information under the authority of section 114 of the Clean Air Act, regulatory development information is not routinely shared with OECA. The EPA participants noted that they were not aware of any instances of information gathered for regulation development being used for enforcement purposes.

A few industry representatives stated that Title V applications are the best source for data as well as for questionnaire format ideas. The EPA agreed and noted that the Heavy Duty Truck sites that were visited in early June have provided their Title V permit applications. It was noted that Title V permits have not been issued in some States, and therefore only the applications may be available. In addition, many Title V applications are hundreds of pages long. Ideally, EPA would like to collect only the information in the applications that is relevant to coating operations (e.g., flow diagrams, process descriptions, emissions data, and control technology information regarding coating operations in particular.) One industry representative suggested tailoring questionnaires to each State to reflect the permit application format in that State.

The draft site visit questionnaire includes questions about the facilities waste handling practices. Some participants questioned EPA's need for this information in regulating HAP emissions. The participants stated that facilities do not monitor HAP contents of waste streams, and requests for such data would be very burdensome. The EPA responded that the MACT standards are intended to address all sources of HAP emissions from regulated sources. However, EPA's site visit questionnaires may request only qualitative information regarding waste handling procedures.

Some attendees raised the concern that some facilities could have hundreds of coatings to report on for table 2 of the draft site visit questionnaire. The EPA defined the reporting scope to include the top 10 to 15 coatings used at a facility that account for at least 90 percent of the total usage.

Questions were raised regarding what source to use for reporting coating contents. It was pointed out that Material Safety Data Sheets (MSDS) do not necessarily provide complete data on HAPs and VOC. This issue is relevant to all of the coating projects and is further discussed in section 5.0 below.

Attendees also stated that the process of responding to questionnaires would be greatly enhanced if the following suggestions were followed: (1) The language, terms, and format are modeled after Title V applications, (2) data are reported in English units instead of metric (EPA to make the conversions), and (3) The Small Business Assistance office be involved to help small businesses with the completion of these questionnaires.

Industry representatives stressed the necessity of considering individual coatings as part of a coating system. They pointed out that, for example, the lowest VOC primer, colorcoat, and clear coat cannot necessarily be used in conjunction. Consideration must be given to compatibility between the substrate and the coatings as well as between the different coatings. Performance requirements must also be considered. Industry representatives noted that the plastic parts ACT document's automotive coating categories are a good example of a coatings systems approach (e.g., high bake and low bake systems, and flexible and non-flexible systems).

Attendees asked if the definitions used in the site visit questionnaire would be common for all MACT questionnaires. The EPA explained that the definitions attached to the draft site visit questionnaire are intended only as an aid to responding to the questionnaire. Definitions that will be included in the regulations will be developed at a later date. The definitions contained in the plastic parts ACT document will be the starting point, and definitions will be coordinated with the other coating MACT standards to the extent possible.

4.5 Discussion and Formation of Issue Work Groups

The EPA introduced the idea of issues work groups to contribute to the information gathering process. Participants agreed that the next stakeholders meeting will be an appropriate time for the formation of issue work groups.

The Issue Work Groups formed during the Miscellaneous Metal Parts meeting are the models for future development: (1) Scope and definition, (2) Source/source sizes, (3) Information collection, (4) Flexibility/overlap issues, (5) Consistency of MACT rules, and (6) Recordkeeping. Participants suggested that the issues work groups for automotive plastic parts work with their counter parts for automotive miscellaneous metal parts.

5.0 ONGOING ISSUES

During discussion of some of the Agenda topics, additional questions and issues were raised but could not be resolved within the scope of the stakeholder meeting. These issues are noted below and will be addressed during the MACT development process.

- *Cleaning operations* -- Emissions from solvent cleaning activities associated with coating operations will be considered in the standards development process. The EPA will be collecting information on HAP and VOC emissions from clean-up operations. Control of VOC emissions from clean-up operations is addressed in EPA's Alternative Control Techniques Document: Solvent Cleaning.
- *Reporting coating contents* -- The EPA's questionnaires and other data gathering efforts will focus on the HAP and VOC contents of coatings. As noted in the questionnaire discussion in section 4.3, the VOC and HAP content of coatings are not always readily available, and industry participants expressed concern as to how to respond to requests for this information. This question has been raised for other MACT projects as well. MSDS often list contents as a range of percentage by weight or volume, or list minor constituents as "less than" some de minimis (e.g., less than 0.1 percent). HAP and VOC contents are not always speciated. Some coaters receive confidential MSDS from their coating suppliers. While these MSDS may list more complete contents, the coaters have signed agreements not to share the information with third parties. Spray design information, or formulations, are also sometimes distributed to some coaters but are apparently not available for all coatings.

A cooperative effort between EPA and the Chemical Manufacturer's Association (CMA) is under way to develop Certified Product Data Sheets that would satisfy EPA's need for solvent content information and would also be acceptable to solvent manufacturers and users. However, these data sheets are under development and are not expected to be available within the time frame of P-MACT. The EPA needs to determine the most appropriate available source and format for coating content data. Any requests

for coating content data will include specific instructions on acceptable sources. Requests will also be coordinated across coating projects to the extent practical.

- *Measurable HAP contents* -- Participants pointed out that a particular HAP may be present in a coating in such small quantities that it is not reported in MSDS or formulations, but measurable quantities of the HAP may be detectable in stack tests due to the quantity of coating used. Such potential discrepancies should be considered in the determination of P-MACT as well as the MACT floor.
- *Reports of emissions data* -- The miscellaneous metal parts stakeholder meeting (June 18, 1997) included discussion of how to report sources' VOC and HAP emissions in questionnaire responses. Industry participants suggested reporting their permitted limits rather than their actual emissions. In some cases permit limits may be useful, but actual emissions are likely to be needed as well, for example to identify the best performing sources. The EPA will specify in its requests for emissions data whether actual, potential, or permitted levels are to be reported.

Table 1. Plastic Parts Coating P-MACT Meeting Participants

| Organization | Participant | Phone # | Fax # |
|--|------------------|----------------|----------|
| EPA/ESD | Linda Herring | (919) 541-5358 | 541-5689 |
| EPA/ESD | Ellen Ducey | (919) 541-5408 | 541-5689 |
| EPA/ESD | Dave Salman | (919) 541-0859 | 541-5689 |
| EPA Region IV | Karen Borel | (404) none | 562-9019 |
| Michigan DEQ | Bob Irvine | (517) 373-7023 | 335-6993 |
| Jefferson Co. Air Board (STAPPA/ALAPCO) | Bruce Gaylord | (502) 574-6000 | 574-5306 |
| Eastern Research Group | Joan McLean | (919) 461-1218 | 461-1418 |
| Eastern Research Group | Greg D'Angelo | (919) 461-1522 | 461-1418 |
| Eastern Research Group | Michael Bryant | (919) 461-1215 | 461-1418 |
| TRC (TMA Contractor) | Jim Serne | (919) 419-7591 | 419-7501 |
| Ford Motor Company | Cathie Jo Seamon | (313) 390-3799 | 248-5030 |
| General Motor Corporation | Bob Fedorko | (313) 556-7620 | 556-7629 |
| Nissan Motor Manufacturing | Gary Ewing | (615) 459-1633 | 355-2303 |
| AAMA ¹ | Gene Prachan | (919) 547-7100 | 547-7102 |
| AIAM ² | Tara Vizzi | (703) 525-7788 | 525-8817 |
| BASF | Sharon Finn | (810) 948-2000 | |
| Dupont | Karl Schultz | (302) 992-2372 | 892-1143 |
| Dupont | Stan Horvath | (248) 583-8037 | 583-4555 |
| Lilly Industries | Sherry Stookey | (910) 802-4305 | 889-6005 |
| PPG | Dave Mazzocco | (412) 492-5476 | 492-5377 |
| Red Spot Paint/Varnish | Mark Lutterback | (812) 428-9131 | 428-9167 |
| Sherwin Williams Company | Madelyn Harding | (216) 566-2630 | 566-2730 |
| Sherwin Williams Company | Marc Kruzer | (216) 566-6546 | 566-2508 |
| Fusion UV Systems | Chris Brandl | (810) 231-5700 | 231-3688 |
| Rad Tech International | Alexander Ross | (703) 534-9313 | 533-1910 |
| NPCA ³ | Bob Nelson | (202) 462-6272 | 462-8549 |
| Worthington Industries | Matthew Johnston | (614) 438-7960 | 438-3171 |

Table 1. Plastic Parts Coating P-MACT Meeting Participants Continued

| Organization | Participant | Phone # | Fax # |
|---|--------------|----------------|----------|
| EIA/CEMA ⁴ | Brooke Robel | (703) 907-7600 | 907-7501 |
| Berry Environmental (ASTM) ⁵ | Jim Berry | (919) 785-9631 | 785-9631 |
| Van Ness Feldman (AIAM) ² | Dick Penna | (202) 298-1870 | 338-2416 |

¹AMMA = American Automobile Manufacturers Association

²AIAM = Association of International Automobile Manufacturers, Inc.

³NPCA = National Paint and Coatings Association

⁴EIA/CEMA = Electronic Industry Association/Computer Equipment Manufacturers Association

⁵ASTM = American Society for Testing and Materials

Attachment A

**AGENDA FOR PLASTIC PARTS P-MACT
STAKEHOLDER MEETING
JUNE 19, 1997**

1. Meeting objectives:
 - Obtain stakeholder response to EPA preliminary data collection and industry sector characterizations.
 - Obtain recommendations for filling data gaps
 - Introduce EPA's options for industry questionnaires
 - Formation of issues work groups
2. EPA presentation on current understanding of industry sectors
 - Heavy duty truck manufacturers
 - Other automotive
 - Business machines
 - Miscellaneous parts: toys; sporting goods; flexible flooring; windows, doors, and shutters; plastic bottles/containers and caps. Further characterization of the miscellaneous sector is needed.

Discussion of industry sector divisions and characterizations
3. Data collection status report (See Attachment A)
 - Explanation of need and intended use for different types of data;
 - Air emissions: Aerometric Information Retrieval System (AIRS), Toxic Release Inventory (TRI);
 - Test data: Source Test Information Retrieval System (STIRS);
 - Site visits;
 - State regulations;
 - Literature search.

Discussion of data sources, current data gaps, and site visit opportunities.
4. EPA presentation on available options for questionnaires
 - What is an Information Collection Request (ICR)
 - Review and approval by the Office of Management and Budget (OMB)
 - The generic ICR for MACT development
 - Options for developing a coating-specific questionnaire
 - Industry administered survey possibilities
 - Schedule/timing for the plastic parts questionnaire

Discussion of questionnaire options and opportunities for stakeholder input.
5. Discussion and formation of issues work groups: (See Attachment B)
6. Next steps
 - Schedule for collection of data from stakeholders
 - Coordination of issues work groups
 - Availability of meeting summary
 - Tentative dates for next stakeholder meeting

Attachment B

Goals by October 1997

- Understand industry coating processes
- Identify typical emission points
- Identify/involve representatives for each industry segment
- Coordinate/develop plan to address overlap among MACT sources
- Determine Scope
- Locate major sources
- Identify existing controls
- Develop questionnaire
- Complete informational site visits
- Identify issues/develop plan for resolving

**Joint Stakeholder Meeting for
Surface Coating of Miscellaneous Metal Parts and Products
and Surface Coating of Plastic Parts**
Meeting Summary - August 13, 1997

1.0 PURPOSE

The following is a summary of the second stakeholders meeting in the MACT and VOC regulation development process for both the surface coating of miscellaneous metal parts and products, and plastic parts. The meeting was conducted jointly due to several overlapping issues between the two source categories and an interest by many stakeholders in both projects. An agenda from the meeting is included as Attachment A.

2.0 PLACE AND DATE

US EPA Environmental Research Center
Alexander Drive
Research Triangle Park, NC
August 13, 1997
9:00 a.m.

3.0 ATTENDEES

The attendees, along with those who participated through a conference call, are listed in Attachment B. Introductions made by attendees indicated that approximately half were interested in both metal and plastic parts surface coating, with the remainder primarily interested in metals, and a few participating for plastics only.

4.0 DISCUSSION

The topics summarized below are presented roughly in the order in which they were discussed and for the most part, follow the agenda established prior to the meeting.

4.1 Status of Projects

4.1.1 Plastic Parts

Ellen Ducey, EPA's team leader for the plastic parts surface coating source category, identified the four sectors that have been developed for this category: automotive, heavy duty truck, business machines, and miscellaneous, listing some examples of the industries and businesses that would fall under each. A suggestion was made that the aerospace industry be listed under the miscellaneous sector, as various plastic parts (luggage racks, trays, etc.) may be

coated for installation within aircraft and would not be covered under the aerospace MACT.

Ms. Ducey explained that the identification of facilities in these sectors is being conducted through contact with State agencies and trade associations, as well as searches of Internet sites and EPA databases. Data collection is currently being conducted through site visits, reviews of technical literature, State regulations, and Title V permits and applications, in addition to Internet site searches. She also stated that site visits in the heavy duty truck category have been completed, while visits to business machine, automotive, and miscellaneous industries will be conducted in the future.

Ms. Ducey then listed the States in which an initial Title V application collection has been conducted. A question arose as to how these States were picked. Joan McLean of the Eastern Research Group, Inc. (ERG), explained that several were identified as having a large number of coating industries by performing searches within EPA databases using SIC codes and source category codes (SCC). Others were chosen due to their proximity to North Carolina which will facilitate permit retrieval and review, as well as future site visits.

4.1.2 Miscellaneous Metals

Bruce Moore, EPA's team leader for the miscellaneous metal parts and products surface coating source category, explained the role of subgroups within this category and described the focus of each of the established subgroups. Six issue subgroups were formed during the first stakeholders meeting: Scope and Definition, Source Size, Data Collection, Alternate Questionnaire, Flexibility, and Consistency. Following the initial conference call meetings, reorganization of these issue subgroups left four: Scope, Coatings Technology, Source Size, and Data Collection. The issue subgroups for flexibility and consistency were dropped since these are issues that will be given consideration throughout the process. Two other subgroups, Regulatory and Small Business, are to convene at a later date.

Concern was raised by industry participants about the Flexibility subgroup having been eliminated. This is an important issue because there are many varying technologies currently used in the coatings industry, as well additional technologies that may be developed in the future. It was agreed that the need to allow for innovative technologies must be continually recognized in the regulatory process. Mr. Moore noted that, although the Flexibility and Consistency subgroups have been eliminated, these topics will be continuously addressed throughout the MACT development process due to their importance. In addition, one of the participants in the

discussion of these issues during the conference calls volunteered to draft a list of "guiding principles" to consider for the entire project. Mr. Moore also added that technological flexibility and differences between coating lines are topics which should be covered by the Coatings Technology subgroup.

Mr. Moore then presented a summary of both past and planned site visits. Concern was raised by a participant that small businesses may not be receiving equal representation in the process because so many large companies are involved. In addition, a question was raised as to how site visit locations are chosen, and whether selection is based on processes and technology. It was noted that the Small Business issue subgroup should be very instrumental in ensuring that the needs of smaller businesses and industries are met during this process. There was also a concern as to whether different technologies have been observed to date or would be during future site visits. It was agreed that a representative mix of technologies should be covered by the visits. Mr. Moore indicated that spray, low bake, and high bake have been seen so far. He further stated that if there is not a complete sampling of all the different types of coating technologies during the visits, it will not hinder the MACT development process, because regulations are not solely based on these site visits. Significant data and information are also gathered from Section 114 questionnaires. Also, the data collection process runs through December 1998, so the end of the PMACT process does not signal an end to data gathering. A suggestion was then made that trade associations be notified prior to site visits within a particular industry sector so that they may be involved as well.

A powder coating technologies show was also announced. This show will be held in Charlotte, NC on October 7-9, 1997. Two facilities which use powder coating methods will be toured as a part of this event. The show will provide an excellent opportunity to learn more about this method of surface coating and to visit sites where it is utilized.

4.2 Establishing the MACT Floor

During Mr. Moore's status update, questions were raised concerning how EPA establishes a MACT floor and what type of information is utilized to do so. Mr. Moore stated that this topic had been discussed previously within the metal parts stakeholders group, and that EPA has no predetermined policy on exactly how to set a MACT floor. EPA does follow internal policy guidance compiled within the Emissions Standards Division (ESD). This policy guidance helps in

the development process, but the compilation itself is not shared outside of the ESD. Linda Herring, EPA leader for the coating and consumer products group, added that this policy is a means by which the different MACT projects update each other on the status of regulatory development and not a set of rules on how to conduct the process. Someone also raised a concern about data collection leading the MACT floor development process, saying that often how and what type of data are collected can influence the standards that are set. It was agreed that at this point focus should be placed on data collection, so that a good evaluation can be made as to what information needs to be gathered to support MACT floor determination.

4.3 Scope and Definition of Categories

4.3.1 Plastic Parts

Joan McLean briefly summarized the status of the information gathering process for each of the four sectors within the plastic parts category. At this point in the process, the automotive sector is well represented and characterized, but further information may be needed for other types of mobile equipment. Both interior and exterior plastic parts are coated. The heavy duty truck sector is also well represented and characterized. Ms. McLean stated that this sector is basically concerned with exterior parts. A point was made that it should not be listed as exclusively exterior, because there is likely some interior coating included, and if not now, possibly in the future. Ms. McLean went on to say that there exists a moderate representation for business machines, with additional contacts currently being made. The sector is well characterized through the Alternative Control Techniques (ACT) document and the New Source Performance Standard (NSPS). Miscellaneous parts is lightly represented in the process, while more contacts are needed for a thorough representation. A problem arises because the sector is so diverse and includes many small businesses, toll coaters, specialty coaters, and job shops. As such, this sector is not well characterized. A point was raised that there are probably many large industry groups within the miscellaneous sector, that in combination, will comprise a large portion of the emissions. Thus, miscellaneous should be recognized as a significant sector and an effort should be made to break it down so that it may be better characterized, rather than referring to it as "miscellaneous". Another suggestion was made that plastic building products, such as windows, moldings, and doors should be included as a significant group within the miscellaneous sector.

Another question was asked as to whether these sectors will eventually become subgroups for source categorization later in the process. Ms. McLean stated that this was not necessarily the case and that these were chosen to initially facilitate the data collection process. A second question was raised concerning the final rules and whether or not they will apply only to major sources, or area sources as well, and how this would effect the questionnaire process. Ms. McLean pointed out that the information gathering process is for both the MACT standard and regulatory development under Section 183(e). VOC data collection must cover all sources, because they will all be affected under 183(e). A suggestion was then made that the questionnaires have separate sections for HAP and VOC information, easing the burden for sources having to complete information for VOC only.

4.3.2 Miscellaneous Metals

George Woodall of Pacific Environmental Services, Inc. (PES), presented an initial list of industry sectors to be considered under the miscellaneous metal parts and products category. He stated that the list was not all-inclusive, but simply an attempt to begin breaking down the various segments. Questions were raised as to why magnet wire was the only wire category represented on the list of industry sectors for miscellaneous metal parts and products. The explanation was that magnet wire is the only wire not covered with plastic extrusion, and therefore is the only wire not covered by another source category. A suggestion was made that limiting terms, specifically "magnet" describing wire, not be used in defining source category industry sectors so as not to exclude similar industries. It was agreed that the term "magnet" would be dropped. Another question was brought up concerning the difference between large and small appliances and the cutoff between the two. Bruce Moore explained that large appliances will be regulated as a distinct source category but it has not yet been determined what the exact cutoff is.

Someone else then asked if a coating is defined as just paint or if it also includes adhesives. Ms. Ducey responded that adhesives are included, because we are dealing with any type of coating and the EPA considers adhesives to be coatings. There is confusion around this issue, because some MACT standards define adhesives as coatings, whereas others treat them separately. In addition, it was pointed out that adhesives suppliers should be included in the process, since facilities do not have much information about VOC and HAP emissions from adhesives nor the ability to reformulate.

Participants also raised concerns about creating "catch-all" categories, generally called miscellaneous, which imply that those industries not covered by other rules are to be included. The use of "catch-all" categories can lead to applicability questions and uncertainties. It was suggested that a better method might be to specifically list and define all the processes included under miscellaneous metal parts regulations. If some are excluded in the listing process, they could be added later. Bruce Moore did not believe that it would be feasible to identify all the processes that are covered in source categories that include a "miscellaneous" component.

Dr. Woodall then discussed the data collection process, permit reviews, and questionnaire development. State agencies will be contacted to determine which permits will be most useful to the data gathering process. A point was raised that EPA should not limit the collection of information from State agencies to those that are located in close proximity to North Carolina. It was agreed that the permit data collection will occur in State agencies all across the country, and from the site visits as well. It was mentioned that SIC codes will probably not be useful in determining which permits should be reviewed, since facilities often operate under numerous SIC codes. The most efficient method will be to work with State agencies to obtain the permits needed. EPA will be sending contractor staff representatives to the State agencies to gather this information.

Concerns were again raised about the type of data that will be collected, how it will be used to set standards, and how innovative technologies will be treated. A comment was also made about the handling of data from synthetic minor sources. Participants pointed out that these sources have deliberately taken permit limits so as not be considered major sources. However, if these sources are included in the MACT floor determination, they may in fact be penalized for taking proactive steps to reduce emissions. Therefore, participants want to know whether emissions data from these sites will or will not be included in the floor determination. EPA agreed that the treatment of synthetic minor sources is an important issue and noted that it is being evaluated for all of the coating MACT standards.

4.4 Coatings and Application Technology

Dr. Woodall conducted a discussion of the CAGE (Coating Alternatives Guide) website. The Internet address for this site is included on the agenda, Attachment A. He began by saying that the site will be used to facilitate the information gathering process, as it provides an initial

framework by which the various types of coatings technologies and processes may be organized, but will certainly not be used as the sole source of such information. A point was raised that much of the information within CAGE is outdated or inaccurate. Again, Dr. Woodall stated that this is just one of many sources of information to be considered and asked that participants inform him of gaps in technology or inaccuracies within CAGE. Another participant suggested that a multi-component category be added to the CAGE list of solvent-borne systems, which only included one and two component coatings. Dr. Woodall also spoke of an additional source which may be used to facilitate the information gathering process concerning coating technologies, entitled *Corrosion Prevention by Protective Coatings* authored by Charles G. Munger for the National Association of Corrosion Engineers (see Attachment C for reference information and a table of contents). A participant then mentioned another document which may be useful as well, entitled *Pollution Prevention in the Coatings Industry* out of EPA's Office of Pollution Prevention and Toxics. Dr. Woodall asked that other resources which discuss coatings technologies be brought to the attention of the group at any time. All interested parties should contact Dave Salman by telephone at (919) 541-0589 or via e-mail at salman.dave@epamail.epa.gov.

4.5 New Surface Coating Source Category - Auto and Light Duty Truck

Dave Salman, EPA's team leader for the auto and light duty truck source category, explained that this is the ninth coating category for which MACT and/or Section 183(e) standards are currently being developed at EPA. The category covers coating operations at auto and light duty truck assembly plants, such as surface priming and topcoating of body panels. EPA's contractor for the project is the Research Triangle Institute (RTI). An initial stakeholder meeting is scheduled for September 16, 1997 at the US EPA Administrative Building in Research Triangle Park. Organizational and substantive issues are to be discussed. One of the most important issues to be covered is how this category will relate to or overlap with the plastic parts and miscellaneous metals categories. The American Automobile Manufacturers Association (AAMA), the Association of International Automobile Manufacturers (AIAM), the National Paint and Coatings Association (NPCA), and the Chemical Manufacturers Association (CMA) have been notified.

4.6 A Coatings System Approach to Data Collection

Ellen Ducey described how data would be collected using a coatings system approach, which considers all the coatings applied to a particular part as a system, thus addressing coating compatibility issues. A suggestion was made that when discussing compatibility issues, energy consumption, productivity considerations (such as drying time), and equipment costs should also be included, because they too drive the types of coating technologies used. It was also discussed that questionnaires may be sent to both coating users and coating manufacturers to obtain a more complete picture of compatibility issues, performance requirements, and coating formulations.

4.7 Questionnaire Development

George Woodall discussed the types of information that will be collected with questionnaires. Dr. Woodall noted that the questionnaire will collect information on a variety of control strategies, primarily coating contents and add-on controls. It was pointed out that permits and other information from State agencies will not give information on all types of control strategies, and that the questionnaire is an essential data gathering tool. It was also stated that the stakeholders will be able to review a draft questionnaire when it is prepared, possibly in early October.

Concerns were raised about the time needed to complete a survey. If the questionnaire contains multiple sections, some facilities may need a longer time than others to complete it. There is also the problem of mailroom delays, however, the use of certified mail was recommended to curtail this hindrance. In addition, it was mentioned that some of the information requested through a Section 114 questionnaire may not be immediately available at a facility, thus taking more time for completion. There was also some discussion on submitting questionnaires to facilities electronically. It was mentioned that this method has proven to be extremely cumbersome and ineffective in the past, as it is not feasible to select an electronic format that will be compatible with all systems and familiar to every individual who receives it.

It was then mentioned that it will be important to define the source category thoroughly in order to ensure that a complete, representative sample is being obtained. Bruce Moore agreed, but noted that this is difficult to do for the same reasons that miscellaneous categories cannot be fully described. Some small or unique industry sectors may be difficult or impossible to identify.

Further, Dr. Woodall explained that all nine coating groups will be working together to create the questionnaire, with the intent that any individual facility will receive only one questionnaire.

Joan McLean then discussed the pros and cons of using Title V permit applications to design and/or respond to the questionnaire. She commented that stakeholders at the first plastic parts meeting thought this method of response would present less of a burden to respondents. But due to the variation in permit applications from State to State, they will be of limited use. Certain portions of a Title V application may be useful, such as process descriptions or drawings, but as a whole it would be an incomplete source of data in comparison to a questionnaire. A question was raised as to what type of information may be requested beyond that which is usually included in a Title V permit application. EPA responded that coatings content and detailed coating process information are primary examples.

A point was raised that speciated coating content will be difficult to pin down with the use of various coatings within a facility, because contents will often vary greatly from line to line, or from season to season. It is believed that it may be hard to speciate HAP emissions, because so many different types of coatings are utilized. There is concern that requests about speciation will require a high level of detailed information for the questionnaire to be completed. A suggestion was made that EPA ask for ranges of speciated content to ease the response burden.

Ms. McLean pointed out that when a draft is made available, stakeholders will be able to comment on the reasonableness of data requests.

4.8 Overlapping Issues

Bruce Moore lead a discussion about overlapping issues between the plastic parts and miscellaneous metal parts source categories. He introduced Trish Koman with EPA, who will be working to address and track overlapping issues among all nine coating source categories. Ms. Koman will be creating a whitepaper which explores options to avoid an entanglement of regulations by overlapping MACT standards. A suggestion was made that a meeting of all stakeholders from the nine source category groups be conducted at the conclusion of the PMACT efforts, because so many companies will be subject to numerous MACT coating regulations. In addition, there is a need to address overlaps that may develop between the MACT regulations and the 183(e) rules. Another suggestion was made that attention should be paid to other (i.e. EPA and non-EPA) agency regulations as well, because the use of specific coatings can be mandated

by other federal requirements. For example, the Safe Drinking Water Act defines what coatings can be applied to products used with drinking water.

It was then mentioned that plastics can often drive the system when metal and plastic are coated together, because plastic usually has more stringent primer requirements. In some cases, the two substrates need to be treated separately, because they require different coatings. It was also noted that there may be cases where it is more economical to coat plastic and metal separately, because coatings which can be applied to both plastic and metal are generally more expensive. It was also pointed out that there is currently a move towards the development of stronger plastics, so that many coatings for plastics often have metal in them.

4.9 Next Steps in the PMACT Process

4.9.1 Plastic Parts

Ellen Ducey stated that the next plastic parts stakeholder meeting will likely be conducted via conference call. A summary of the data collection process is expected to be available in early October prior to the call, so that these efforts may be discussed.

4.9.2 Miscellaneous Metals

Bruce Moore explained that the next miscellaneous metal parts meeting will probably occur via telephone, as well. Several site visits are scheduled to be conducted in the next two months, and issue subgroup meetings will continue.

4.10 Open Forum

Several issues had been noted throughout the day as needing further discussion or clarification. These are listed as follows, with a summary of the corresponding discussions.

- Small business involvement - There is a need to involve more small businesses at this stage in the process. The plastic parts source category is trying to find more of these sources, particularly in the miscellaneous sector. Trade associations and the Internet may be good sources. The miscellaneous metals category is in the process of organizing a small business subgroup which will be meeting to discuss issues in the near future.
- Applicability by exclusion for miscellaneous categories - It may be difficult to set a MACT standard based on quantitative and technical information, if

the category is not fully defined, creating gaps in who to survey for information. If applicability is defined by exclusion, how can data collection be thoroughly implemented? Also, it is difficult for sources to determine which standards they are subject to when miscellaneous categories are defined by exclusion. An industry representative suggested that, since the Clean Air Act (the Act) requires technology-based MACT standards, each subject process must be fully described and understood in order to set its respective MACT standard. The EPA responded that, historically, standards for miscellaneous sectors have been set based on relevant representative information, and not necessarily on identification of all process variations.

- Data requests requiring calculations - There is a concern among participants that some questionnaire elements may require new data generation. Ellen Ducey suggested that discussion about data collection request burdens be postponed until a draft questionnaire is completed and distributed to the stakeholders for comment. At that point, discussion of the reasonableness of information requests would be appropriate.
- Permitted vs. actual emissions for MACT floor determination - Bruce Moore pointed out that historically, MACT standards have been based on State regulations, technology-based information, and emissions levels. An industry participant commented that actual emissions may not be suitable for setting standards, because production rates can vary significantly year to year or even season to season, and that permitted rates are often higher, but provide stable numbers. Another participant commented that Section 112 of the Act states that "emissions limitations" must be the basis for setting the MACT floor. Therefore, it was reasoned, actual emissions cannot be used. Linda Herring stated that the Office of General Counsel (OGC) has determined that EPA is not restricted in the Act to using only emissions limitations, in a narrow sense, to set a MACT floor. She suggested that OGC would not object to the use of emissions limitations, but they would not likely limit MACT floor data to emissions limitations only. Ms. Herring continued that if it is determined that permitted emissions levels are representative of the various industries, then it certainly would present a smaller data collection burden and could be used.
- Baseline year for data collection - Discussion about a baseline year was initially brought up in the first miscellaneous metals meeting. They discussed the possibility of allowing facilities to either use a default year or choose their own baseline year that is representative of their normal production. It was suggested that respondents could then pick their most representative year and explain why it was used in place of the default baseline. Within the auto industry, there is speculation that they may be penalized for reductions achieved at some of their facilities by having a

standard set which is based on those lower emissions. Some industry representatives expressed concern that they may be getting penalized for their earlier good faith efforts.

- Coatings formulation confidentiality - It may be difficult for coating users to provide complete coating contents. Much of this information may be confidential. It was suggested that coating manufacturers could, rather than the coaters, provide EPA with formulation information. A representative from the paint industry was concerned that this would be a burdensome information request if it covered all of their products. EPA responded that an effort could be made to require only formulation information on specific coatings, after questioning the users about which coatings are used.

5.0 FURTHER CONTACT INFORMATION

Comments and suggestions concerning future site visits, additional coatings technology resources, industry sectors to be included for better definition of the miscellaneous sectors, or corrections to the attached attendee list should be made via e-mail to George Woodall, gwoodall@rtp.pes.com, or Joan McLean, jmclean@erg.com.

Attachment A

Agenda
Joint Second Stakeholders Meeting
Miscellaneous Metal Parts and Products
and
Plastic Parts Surface Coating

Wednesday, August 13, 1997 from 9 a.m - 4 p.m. (EDT)
Class Room No. 1 at the Environmental Research Center
Research Triangle Park, NC

- 9:00 Introduction and Meeting Objectives
- 9:15 Project Status (Progress to date)
- Subgroup Activities
 - Scope/Definition of Categories
 - Identification of Facilities (Development of a census of facilities)
 - Coatings/Application Technologies
 - Data Collection and Review
 - Site Visits (Completed, Planned, Proposed)
- 10:15 Break
- 10:30 Scope/Definition of Categories
- Industry Sectors to Consider
 - Methods for Developing a Census of Facilities for each Category
- 10:45 Coatings/Application Technologies
- The CAGE Web Site (<http://cage.rti.org/>)
 - Use of the CAGE Hierarchy in Discussing Technologies
- 11:30 Lunch break
- 12:30 Data Collection Issues
- Coating System Approach to Gathering Data
 - Alternate Questionnaire Elements
 - Coatings Content (Issue of questionnaires to coatings manufacturers)
 - Coating line add-on controls, and other control strategies
 - Use of Permits
- 1:30 Overlap Issues
- Are Coating Systems Different for Metal and Plastic? How? When?
 - Trends in Industry (Are Some Parts/Products Going from Metal to Plastic; Plastic to Metal)
- 2:00 Break (if necessary)
- 2:15 Open Forum (Opportunity to continue discussion of specific issues)
- 3:45 Next Steps
- 4:00 Adjourn

Attachment B

Miscellaneous Metal Parts and Products/Plastic Parts Meeting Attendee List

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Miscellaneous Metal Parts and Products/Plastic Parts Meeting Attendee List

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Attachment C

[A reference to the docket number for the original meeting notes will be added. Attachment C is handouts at the meeting.]

**Joint Stakeholder Meeting for
Surface Coating of Miscellaneous Metal Parts and Products
and Surface Coating of Plastic Parts**
Draft Meeting Summary - February 4, 1998

1.0 PURPOSE

The following is a summary of the third stakeholders meeting in the maximum achievable control technology (MACT) and volatile organic compound (VOC) regulation development process for both the surface coating of miscellaneous metal parts and products, and plastic parts. The meeting was conducted jointly due to several overlapping issues between the two source categories and an interest by many stakeholders in both projects. An agenda from the meeting is included as attachment A.

2.0 PLACE AND DATE

US EPA Environmental Research Center
Alexander Drive
Research Triangle Park, NC
February 4, 1998
9:00 a.m.

3.0 ATTENDEES

A list of the meeting participants and their associated organizations/companies is included as attachment B. Please review this list. If there are any additions or modifications please notify George Woodall by telephone at (919) 941-0333 or via e-mail at gwoodall@rtp.pes.com, or Greg DeAngelo by telephone at (919) 468-7851 or via e-mail at gdeangel@erg.com.

4.0 DISCUSSION

The topics summarized below are presented roughly in the order in which they were discussed and for the most part, follow the agenda established prior to the meeting. No presumption of the importance of one issue over another has been imposed.

4.1 Introduction and Project Updates

Bruce Moore began the morning session with a brief introduction to the group. He announced that in addition to the Miscellaneous Metals Parts and Products (MMPP) project, he will be acting as the project lead for the Plastic Parts and Products (PPP) surface coating category during the temporary absence of Ellen Ducey. Mr. Moore then presented an overview of the progress of MMPP and PPP since the last joint stakeholders meeting.

Both MMPP and PPP project teams have visited a number of sites since the August 1997 meeting. The MMPP project team has visited a railcar facility, several magnet wire facilities, miscellaneous hardware manufacturers, a curtain wall manufacturing facility, and aluminum extrusion manufacturers. Visits to a Harley Davidson Motorcycle manufacturer and a defense contractor in Pennsylvania are scheduled. The PPP project team has visited a business machine manufacturer and a miscellaneous plastic parts coater, whose primary products are aircraft interior parts. The PPP team is planning to visit more miscellaneous plastic parts manufacturers in the future.

Both MMPP and PPP project teams have been involved in the development of an alternative questionnaire in conjunction with the other surface coating source categories. Both teams have also been engaged in drafting industry profiles and developing a census of facilities for their respective categories.

In addition, the MMPP project team has met with the small business and regulatory issue subgroups since the last stakeholders meeting.

4.2 Information on the Internet

Nancy Pate, of the U.S. EPA, gave a visual presentation of the Industrial Surface Coating Rule (ISCR) development website on the internet. The ISCR development website can be accessed through the UATW (United Air Toxics Website). The UATW was developed by the US EPA in cooperation with state and local air pollution control agencies (STAPPA and ALAPCO). These agencies were in need of a single location to access information pertaining to a particular rule. The UATW is accessible through the TTN (Technology Transfer Network), which was also developed by EPA.

The industrial surface coating rule development web page can be accessed directly using the following address: www.epa.gov/ttn/uatw/coat/coat.html. This page includes a brief introduction to ISCR development, followed by a list of categories with currently active projects.

Each item on this list is a link to the web page for each of the surface coating source categories. The web pages for MMPP and PPP contain sections where announcements, background information, existing requirements, meeting minutes and materials, documents for review, draft PMACT guidance, and ICR information will be posted. The main ISCR development page also provides a section for frequently asked questions. It was suggested that a section for frequently asked questions be added to specific source category pages.

A suggestion was made that the web page containing the links to each surface coating category's individual web page also contain the last date that modifications to that page were made. This will make it easier for browsers to recognize when new information has been posted to a particular category's web page. Hopefully, the internet will be used as a significant and primary communication tool for stakeholders. The intent is to eliminate the need for mass mailing distributions outs and faxes to disperse information to stakeholders. Several stakeholders requested that some form of notification (i.e., a message via e-mail) be sent out to alert them of new postings on the MMPP and PPP web pages. In addition, other stakeholders suggested that important information, such as meeting notices, should be distributed by mail, phone, or fax, and not solely through the websites.

4.3 Data Collection Timetable

An overview of the proposed timetable for collection of data was presented. Tentatively, questionnaires will be mailed to respondents in May 1998, and the collection of responses will be conducted from June through August 1998. An industry representative noted that the SARA Form R reports are due on July 1, 1998. Most industries will be engrossed in completing and returning these reports and probably will not have time to respond to the questionnaire until after July 1. Industry representatives also stressed that they will need the full 90 days allotted to them for response to the questionnaire. It was suggested that questionnaires be distributed in June instead of May and collected from July through September 1998.

Questionnaires will be sent to the owners of facilities specifically, and not through trade associations. Efforts are being made to ensure that facilities who may be subject to more than one surface coating rule only receive one questionnaire. Major sources will not be the only candidates for questionnaire response; all surface coating facilities within a source category will be considered as potential respondents. The major data collection issues are to whom to send

questionnaires, what to ask in the questionnaire, and how to ask for requested information. Stakeholder input will be needed for all of these issues.

4.4 Census of Facilities

4.4.1 Miscellaneous Metals

George Woodall discussed the efforts of MMPP to develop a census of facilities. Generally, there are two basic needs for a census of facilities. It will act as a source for the development of the questionnaire mailing list, and it will aid in the characterization of the source categories. MMPP will be using three main sources of data to compile a census of facilities: the AIRS database, state lists, and trade association lists. These sources are discussed in the paragraphs below.

The AIRS database contains most of the major sources in the country. However, AIRS uses Standard Industrial Classification (SIC) codes to categorize facilities, which is not very useful for MMPP. SIC codes are too inclusive for a thorough characterization of MMPP surface coating facilities. AIRS also contains Standard Classification Codes (SCCs), which is an eight-digit code that classifies facilities by specific processes. All SCCs beginning with 4-02 indicate surface coating operations. AIRS lists more than 1200 MMPP facilities using very specific six-digit SCCs. Codes 4-02-015 for magnet wire, 4-02-015 for miscellaneous metal parts, and 4-02-026 for steel drums all indicate MMPP surface coating operations in a facility. The six-digit SCC for general surface coating operations (4-02-001) will likely include many more MMPP facilities, but also includes facilities for other surface coating source categories.

The collection of data from state agencies to develop a census of facilities is a cooperative effort by all project teams working on 10-year MACT rules for the surface coating source categories. States were selected for data collection based on the perceived importance of the surface coating facilities within that state for the project teams. The MMPP project team has been assigned to IN, NJ, and NY for investigation. A list of the surface coating categories and states they were assigned for data collection was included with the materials distributed for the meeting. It is important to note that each source category will collect information for all source categories in a particular state. Data from NC and PA has already been collected and evaluated to help with the census of facilities. The NC agency uses the I-STEPS database, which mirrors the AIRS data model. Only 26 MMPP facilities were found in the NC database using the SCC criteria discussed

previously; however, AIRS listed more than 26 facilities for NC. A cross reference of the NC state MMPP data with the AIRS data for NC indicated that none of the NC facilities found in the state database are listed in AIRS. Therefore, the data gathered from the state of NC may be combined with AIRS data to formulate a census of facilities list. The PA database did not include SCCs, and since SICs are too inclusive, the data collected from PA does not allow segregation of MMPP surface coating facilities very readily.

The MMPP has composed a letter to trade association stakeholders to solicit help with the census of facilities. This letter requests mailing lists of association members and non-members in the industry. It also asks for names and contacts of other associations that may be affected by the MMPP rule. Stakeholders were asked to submit names of pertinent trade associations not represented in the MMPP stakeholder group to George Woodall.

4.4.2 Plastic Parts

Greg DeAngelo and Heather Wright presented the status of the PPP facility identification database. The PPP project team is developing a facility identification database to serve primarily as a mailing list of facilities that apply surface coatings to plastic parts and products. As discussed at a previous stakeholder meeting, these facilities are identified in AIRS as a union of both SIC codes and SCCs. Mr. DeAngelo began this presentation with a brief discussion of AIRS and explained how the data would be used to supplement the PPP facility identification database. Emissions data in AIRS are very detailed for any particular plant. However, because AIRS does not follow a consistent approach for segment level emissions and identification, the data are not easily summarized by process. As a result, the PPP project team expects to use the gross plant-wide emissions data to help identify major sources along with all of the facility location and identification data (e.g., address, latitude, longitude, and identification numbers). The PPP project team will compare the results of the SIC code and SCC union search with the facility identification data from other sources.

The PPP project team has been compiling the information that they have collected on plastic parts coating facilities into an Microsoft Access™ database, that is being used to organize this data and to develop a mailing list to distribute facility questionnaires. To date, PPP has listed 327 sources in their database; however, this number does not include any information from the AIRS database.

4.5 Alternative Questionnaire

Joan McLean gave a brief description of ICRs. An ICR, or information collection request, is a process between an agency (i.e., EPA) and the Office of Management and Budget (OMB). When EPA wants to collect information from the public, it must request a review and clearance of that information from OMB. This process takes at least six months and is required if more than nine parties are to be surveyed. A generic questionnaire for all MACT standards was developed by EPA and reviewed and cleared by OMB. This survey was devised to be a time saving device, and can be used to develop any MACT standard without further review from OMB. However, because the survey is generic, it is not specific to any particular source category, and many of the questions do not pertain to surface coating operations. It is also too general to extract any detailed information about coating operations from respondents. Therefore, an additional survey, the alternative questionnaire, was developed specifically for surface coating operations. The EPA's intent in designing this alternative questionnaire was to create a survey that would be easier for surface coating facilities to complete than the generic questionnaire. EPA has the option of including this alternative questionnaire with the generic MACT questionnaire. No OMB review will be required as long as the content of the alternative questionnaire does not exceed the scope of the generic MACT questionnaire. Respondents will be given the option to complete either the generic questionnaire or the alternative questionnaire.

George Woodall reviewed the content of the alternative questionnaire; a list of the elements expected to be included was provided as a handout (referenced as attachment C). The questionnaire consists of several sections: general facility information, process line information, process information, stack parameters, pollutant specific information, control device information, and material inputs. General facility information consists of elements such as facility name, location and mailing address, facility description, principal and end-use products, and other important facility information. It includes a tracking number which will be assigned by EPA. It also contains a section for SICs and NAICS codes, and a website address for more information on NAICS codes was provided (www.census.gov/epcd/www/naics.html). This general facility information section also requests the number of facility coating employees, which will be used for an economic impact assessment for rule development. The process line information section collects data for pieces of equipment that operate together. Process information pertains to individual pieces of equipment. The control devices section will be very important, especially for

larger sources who currently use add-on control methods. Information on each individual pollutant will be collected in the emissions information section. The process material input section basically requests information on the amount of coatings used in a process facility at the greatest level of detail available. Stakeholders agreed that most facilities maintain emissions data or coating usage data on a per-facility basis as opposed to a per-line or per-booth basis. There were also questions as to whether stack-specific information would be relevant. It was stated by EPA that the list of data elements is currently being developed, and that the information provided in the handout is basically for discussion purposes only.

It is anticipated that a draft of the alternative questionnaire will be sent out to stakeholders for review before the next stakeholders meeting and will be the general focus of that meeting. The format of the alternative questionnaire has yet to be determined. The respondent burden of the questionnaire will likely be assessed using a pilot of the survey. Stakeholder input will be needed on the format of the alternative questionnaire and on the pilot survey. Written comments on content of the alternative questionnaire will be greatly appreciated and should be submitted to George Woodall or Greg DeAngelo by February 20. Stakeholders will also have the opportunity to comment on the actual questionnaire once it becomes available.

4.6 ICR for Coating Suppliers

The EPA explained the objective of surveying industry. The survey results are used to populate a MACT floor database and to determine the MACT floor. The EPA wants to ensure that the data collected through the surveys will support the analysis needed to set MACT standards. The MACT standards can consist of many different regulatory formats. Some possible types of standards are hazardous air pollutant (HAP) and VOC content limits, coating technology standards, add-on control technology standards, work practice standards, and combination and alternative standards. Information gathered from surveys must be thorough and complete enough to allow EPA to determine which format is best for the MACT standard.

In conjunction with questionnaires that will be sent to coating users, EPA is investigating if information can also be obtained from coating suppliers. This coating suppliers survey would serve as a source of information, on specific HAP and VOC contents, percent solids, and other detailed information, that users may not know. While many larger companies have formulation data for the coatings that they use, many smaller businesses may not have this information.

Material Safety Data Sheets (MSDSs), which are frequently used for reporting, do not provide enough detail for rule development. In particular, MSDSs do not always provide speciated contents, and they often report contents as broad ranges (e.g., 10 to 60 percent by volume). Coaters expressed strong concern about EPA receiving information about coatings from their suppliers. Many paints are remixed and reformulated at the coating facilities, so the formulations from suppliers will not represent what is actually used to coat a product.

Coating suppliers present stated that a coating suppliers survey would likely result in a flood of data requiring too much analysis to be of any use. It was then suggested that coating users (facilities) provide any data that they have on the VOC and HAP components in the coatings they use. If this information is not available, coaters would supply the names of the manufacturers of their coatings and the product identification/stock numbers of their coatings. EPA would then ask the coating suppliers for only the information not provided by the coating users. This would reduce the amount of information requested from coating suppliers by EPA. A representative of small business stressed that a coating supplier survey would be beneficial to most smaller companies. Smaller manufacturers have limited resources and have to rely on MSDSs as a source of information on coatings. A concern was expressed that using coating suppliers as a source of reporting information would introduce inconsistencies in EPA reports; information for a given facility reported to EPA for MACT standards would be different than information reported to EPA for SARA for identical constituents and parts. The EPA noted that such differences would not be problematic or have any compliance ramifications. Information obtained from the coating suppliers survey would be linked with information obtained from the coating users questionnaire through the use of the manufacturers' product identification codes.

The coating supplier survey will be an additional approach to collect information on coatings and will not be used in place of the alternative questionnaire. No facility specific usage data will be gathered from the suppliers survey. Suppliers noted that numerous formulations of one type of coating may be manufactured for the same product line. For instance, each color of a particular coating has its own formulation. Since the coating industry is highly customized, many coating suppliers may be reluctant to reveal their proprietary formulations. A suggestion was made that surveys request only complete information on HAP and VOC content, not complete formulation details. Stakeholders were assured that surveys will be given the same level of

confidentiality as confidential business information (CBI). The OMB approval may be necessary for the coating suppliers survey.

4.7 Afternoon Session Covering Specific Technical Subjects

The afternoon session of the meeting consisted of discussion and questions on three specific technical subjects: (1) inclusion of adhesives applications in the coating rules; (2) overlap with the auto and light duty truck rules and the aerospace industries rules; and (3) treatment of specialty coating categories. These topics are relevant to both the miscellaneous metal parts and plastic parts source categories. The EPA encouraged stakeholders to submit written comments or information on these topics. Concise technical memoranda or letters are an effective way to provide information for EPA's consideration.

4.7.1 Adhesives Application Operations

The EPA pointed out that adhesives application operations are included in the scope of several existing coating rules and are being considered for inclusion in the coating MACT and 183(e) rules currently being developed. For miscellaneous metal parts and plastic parts, EPA's current approach is to continue to collect information about adhesives applications to assess the magnitude of emissions. No decision has been made as to the how adhesives might be regulated.

In considering regulation of adhesives application, questions arise regarding applicability. Adhesives might be applied to plastic or metal parts in any of three general scenarios.

- In a single facility, adhesives are applied to parts that are also painted.
- In a single facility, certain parts are coated with adhesives only, while other parts are coated with paint only.
- A facility includes adhesives application operations for plastic or metal parts, but does not perform any painting of plastic or metal parts.

The EPA asked for comments and discussion on the these scenarios and how likely they are to occur in particular industries. In general, it appears that all three scenarios do occur. Stakeholders expressed concern that adhesives are as varied and numerous as paints, and that their contents are as complex. Some adhesives also require special primer coats. Therefore,

separate standards may be needed for adhesives. Regulating paints and adhesives as a single source category may not be practical.

Stakeholders asked whether sealants and caulks would be included as adhesives. Bruce Moore responded that they were included at this point in the information gathering activities. A representative of the Adhesives and Sealants Council (ASC) was present (by phone) and commented that the ASC was following rule development.

Stakeholders also asked how cleaning solvents and operations would be covered under the rulemakings. Bruce Moore noted that cleaning, like adhesives and caulks, was being included in the information gathering activities.

4.7.2 Overlap Issues

The focus of the overlap discussion was the auto and light duty truck and the aerospace source categories. The EPA is currently developing regulations for the auto and light duty truck source category under sections 112 and 183(e). The MACT standard for the aerospace industry has been promulgated (40 CFR part 63, subpart GG), and a Control Techniques Guideline (CTG) has been published for aerospace coatings. To access overlap concerns, cases where a single coating or a single operation might be regulated by more than one rule must be identified.

The auto and light duty truck source category is intended to address coating operations that are part of the assembly line. The plastic parts and miscellaneous metal parts source categories are intended to cover coating that occurs offline. The EPA is focusing on situations where a part receives some paint offline (e.g., a primer) and then is further coated on the assembly line. The offline coating could occur either at a separate facility, or in a coating booth at the assembly facility that is not part of the main paint shop. In addition, it was noted that coatings applied offline must be compatible with subsequent coats, and in some cases the colors must be matched. Stakeholders also pointed out that touch-up coating occurs on the assembly line and should not be considered an offline operation.

The aerospace national emission standard for hazardous air pollutants (NESHAP) provisions explicitly exclude parts that are “not critical to the vehicle’s structural integrity or flight performance.” Metal or plastic airplane parts not covered by the aerospace rule or CTG would be subject to the miscellaneous metal parts or plastic parts rules. These would consist primarily of interior parts. A stakeholder asked how EPA would treat advanced composite materials. Bruce Moore stated that EPA has not addressed this issue yet. Stakeholders agreed that aerospace

coatings are also affected by Federal Aviation Administration (FAA) regulations. For example, airplane parts are required to meet smoke and combustion standards for an entire assembled part (e.g., a chair), including all of the component materials, coatings, and adhesives.

Stakeholders noted that aerospace manufacturing consists largely of final assembly of products supplied by many smaller contractors. Large scale coating may not take place at aerospace assembly plants, unless that plant has rebuild or remanufacture capabilities. A possible overlap issue involves a contractor that makes and coats part that may be included in several final products, such as a coated bolt or fastener that can be used on a snowmobile, washing machine, or aircraft interior.

4.7.3 Specialty Coatings

The EPA described specialty coatings as coatings that are considered separately from the general coating type that they belong to. Certain coatings might be considered separately because they are used in significantly smaller quantities, or because they have special performance criteria such as corrosion protection or safety considerations. Specialty coatings could be given separate standards, or they might be exempt. In some cases, the use of specialty coatings can be accommodated with alternative compliance methods. For example, if a HAP content limit is set for primers, but some primers have a particular safety performance specification that requires a higher solvent content, facilities might be allowed to apply the higher HAP-content coating as long as they control the emissions with an incinerator. The EPA asked the stakeholders for suggestions of potential specialty coating categories. The suggestions included:

- Department of Defense (DOD) combat coatings,
- DOD Nuclear-Biological-Chemical (NBC) protective and identification coatings,
- Potable water supply coatings,
- Food and Drug Administration (FDA) regulated coatings,
- Department of Transportation (DOT) National Traffic Highway Safety coatings; and
- Other speciality coatings as described in the Plastic Parts ACT document.

A stakeholder suggested that, in most cases, designating specialty coatings would not be necessary since advanced and innovative low-HAP and low-VOC technologies exist to meet most coating needs. The EPA responded that the process of setting MACT standards is designed to identify such technologies and, where appropriate, to set standards based on them.

The EPA requested written information on specialty coatings. Submittals should include a clear technical definition of the suggested coating type and a technical basis for specialty status, including data where relevant.

Attachment A

Agenda
Joint Third Stakeholders Meeting
Miscellaneous Metal Parts and Products
and
Plastic Parts Surface Coating

Wednesday, February 4, 1998 from 9 a.m - 4 p.m. (EST)
Class Room No. 1 at the Environmental Research Center
Research Triangle Park, NC

| | | | |
|-------|--|---|------------------------------|
| 9:00 | Introduction | - | Bruce Moore |
| 9:10 | Information on the Internet | - | Nancy Pate |
| 9:30 | Data Collection Timetable | - | Bruce Moore |
| 9:35 | Census of Facilities | - | George Woodall & Joan McLean |
| | <ul style="list-style-type: none"> • AIRS (List of Major Sources) • Trade Associations • Letter seeking cooperation • State Data | | |
| 10:00 | Break | | |
| 10:15 | Alternative Questionnaire | - | George Woodall |
| | <ul style="list-style-type: none"> • Content (types of information requested) • Format • Respondent Burden • Stakeholder Input Needed | | |
| 11:15 | ICR for Coating Suppliers | - | Joan McLean |
| 11:30 | Closing of Morning Session | - | Bruce Moore |
| | <ul style="list-style-type: none"> • Next MMPP Stakeholders Meeting • Next MMPP Issue Subgroups Meetings | | |
| 12:00 | Lunch | | |
| 1:00 | Adhesives Application: Discussion of inclusion of adhesives application under the MACT and VOC regulations | - | Joan McLean |
| 1:30 | Overlap Issues | - | Joan McLean |
| | <ul style="list-style-type: none"> • Auto and Light Duty Truck Category • Aerospace NESHAP and CTG • Discussion and solicitation of technical memoranda | | |
| 2:00 | Specialty Coatings | - | Joan McLean |
| | <ul style="list-style-type: none"> • Criteria for specialty status • Possible regulatory formats • Discussion and solicitation of technical memoranda | | |
| 2:15 | Adjourn | | |

Attachment B

Miscellaneous Metal Parts and Products/Plastic Parts Meeting Participant List

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| Winkeler, Max | MMPP Only | Sigma Coatings (CDOA) 1401 Destruchan Avenue PO Box 816 Harvey, LA 70058 | 504-347-4321 504-340-1147 (F) | max.winkeler@fina.com |
| Wood, Tom | MMPP & Plastic Parts | Cooper Tire & Rubber Company PO Box 550 Findlay, OH 45839 | 419-424-4345 419-424-7341 (F) | ctfineng@bright.net |
| Woodall, George | MMPP Only | Pacific Environmental Services, Inc. 5001 South Miami Boulevard PO Box 12077 Research Triangle Park, NC 27709 | 919-941-0333 919-941-0234 (F) | gwoodall@rtp.pes.com |
| Worcester, Dana | MMPP Only | Association of Container Reconditioners 8401 Corporate Drive, Suite 140 Landover, MD 20785 | 301-577-3786 301-577-6476 (F) | dworcester@igc.apc.org |
| Wright, Hal | MMPP Only | OK Department of Environmental Quality | 405-290-8247 405-962-2200 (F) | Hal.Wright@oklaosf.state.ok.us |
| Wright, Heather | Plastic Parts Only | Eastern Research Group (ERG) PO Box 2010 Morrisville, NC 27560 | 919-468-7890 919-468-7801 (F) | hwright@erg.com |
| Yohman, Mark | MMPP Only | Lennox International 2100 Lake Park Boulevard Richardson, TX 75080 | 972-497-5069 (P) 972-497-5268 (F) | Mark.Yohman@Lennoxintl.com |
| Zadrozny, Arthur J. | Plastic Parts Only | ARCO Chemical Company 3801 West Chester Pike Newtown Square, PA 19073 | 610-359-5704 610-359-5753 (F) | CNSAJZ@ARCOchem.com |

Miscellaneous Metal Parts and Products/Plastic Parts Meeting Participant List (Continued)

| <u>NAME</u> | <u>SOURCE CATEGORY</u> | <u>AFFILIATION AND ADDRESS</u> | <u>PHONE/FAX</u> | <u>E-MAIL</u> |
|--------------------|-----------------------------------|---|--|-----------------------|
| Zysman, Bernie | MMPP & Plastic Parts | OxyChem Buffalo Avenue & 53rd Street PO Box 344 Niagra Falls, NY 14302 | 716-278-7894 800-733-1165 716-278-7297 (F) | Bernie_Zysman@oxy.com |

Attachment C

[A reference to the docket number for the original meeting notes will be added. Attachment C is handouts at the meeting.]

APPENDIX D

**REGULATORY SUBGROUP AND SMALL BUSINESS
SUBGROUP MEETING SUMMARIES**

**Regulatory Stakeholder Subgroup Teleconference
for Surface Coating of Plastic Parts**
Telecon Summary - June 16, 1998

The following is a summary of the first conference call of the regulatory stakeholder subgroup for the presumptive maximum achievable control technology (P-MACT) phase of the regulatory development process for the surface coating of plastic parts. The conference call was held on June 16, 1998. An agenda for the conference call is included as attachment A. Teleconference participants are listed in attachment B.

Introduction

Bruce Moore, EPA's project lead, thanked the attendees for their participation. He explained that the project to regulate HAP (hazardous air pollutants) and VOC (volatile organic compounds) from the use of coatings on plastic parts started in April 1997. A total of three general stakeholder meetings have been held in Research Triangle Park, North Carolina. A fourth meeting of the entire stakeholder group is tentatively scheduled for September. Mr. Moore invited regulatory subgroup participants to attend the meeting. He noted that all regulatory subgroup participants will be added to the general stakeholder contact list to receive information on the project periodically, as well as notices for upcoming stakeholder meetings.

P-MACT and Role of the Regulatory Subgroup

Mr. Moore stated that EPA is in the initial stages of determining MACT for plastic parts surface coating. Currently, EPA is engaged in the presumptive MACT (P-MACT) process in which EPA collects and summarizes readily available data to characterize the industry, emissions, and typical control techniques. The goal of P-MACT is to determine what the MACT standard would be if it were based solely on readily available information. The purpose of P-MACT is to assist States in making case-by-case MACT determinations for new or reconstructed sources. If EPA decides that P-MACT cannot be determined, then the Agency will summarize the information that has been gathered during the P-MACT process to assist States in the interim until the MACT standard is developed.

Mr. Moore explained that EPA has not acquired enough information to date to make a P-MACT determination. The EPA will be summarizing the P-MACT process and the information that has been collected in a P-MACT document. A draft of this document is currently being developed. Mr. Moore described the role of the regulatory subgroup as reviewing the draft P-MACT document prior to its release to the broad stakeholder group. The draft is tentatively scheduled to be distributed to the regulatory subgroup in early August, at which time participants will have two weeks to review and comment on it. Comments must be submitted in writing to EPA. A conference call to discuss regulatory subgroup comments will be held the week of August 18. [Due to changes in the P-MACT schedule, the regulatory subgroup will not be reviewing the document prior to its release to the broad stakeholder group. Regulatory subgroup participants will be asked to review and comment on the document when it is released to all stakeholders the first or second week of August. Stakeholders will have approximately three to four weeks to provide comments to EPA. A general stakeholder meeting will be held mid-September to discuss stakeholder comments.] The EPA will revise the P-MACT document and must finalize it by the end of September. Mr. Moore added that all of the 10-year MACT coating projects currently under development must complete their P-MACT documents by the end of September.

Project Status

Determining P-MACT is the first stage in the development of the MACT standards and begins with data collection by various means, including site visits and industry questionnaires. Greg DeAngelo, Eastern Research Group, Inc. (ERG), EPA's contractor for the project, stated that five facilities have already been visited. Three of the facility visits were conducted at heavy duty truck manufacturing sites and two were conducted at miscellaneous plastic products manufacturing sites. Mr. DeAngelo explained that the choice of the truck manufacturing sites was to assess concerns expressed by the Truck Manufacturing Association which has been active during the P-MACT process. They believe that their industry has special, coating related concerns. For example, metal and plastic are often coated together in the truck manufacturing process yet the coating of miscellaneous metal parts are being covered under a separate rule from the coating of plastic parts. Trip reports will be available in the project docket. Upcoming site visits include two automotive assembly sites (one U.S. manufacturer and one international

manufacturer), a facility which performs adhesives application, and a site using innovative technologies, such as UV (ultraviolet) or powder coatings. Teleconference participants were asked to advise EPA of any site visits that they believe would be beneficial to the project. Fred Lettice, California South Coast Air Quality Management District (SCAQMD), stated that he is unaware of any plastics coating facilities in the South Coast District using UV or powder coatings, but offered to check.

Mr. Moore explained that EPA is also preparing to distribute an industry questionnaire. A generic questionnaire has been developed by EPA for use by all the MACT projects, but EPA may develop alternative, project-specific questionnaires. Mr. Moore stated that EPA is in the process of developing an alternative to the generic questionnaire for the plastic parts surface coating project. A draft of the alternative questionnaire is posted on EPA's TTN (technology transfer network) website. [The questionnaire can be accessed at www.epa.gov/ttn/uatw/coat/plastic/plas_parts.html.] Mr. DeAngelo invited the regulatory subgroup participants to review the draft questionnaire and provide comments to him by June 30.

Mr. DeAngelo explained that the questionnaire will be sent to facilities that have been identified as performing plastic parts coating as part of their industrial operations. Plastic parts coating facilities have been located by various means, including information that has been provided by State agencies and database searches. Mr. Lettice asked if there is a facility size cutoff for distribution of the questionnaires. Mr. DeAngelo stated that all facilities will be receiving the questionnaire regardless of size. Mr. Lettice also asked if EPA has received facility information from the SCAQMD. Mike Bryant and Heather Wright, ERG, indicated that several individuals at SCAQMD have been contacted and that they believe EPA has received information on facilities performing plastics coating in that District. Mike Bryant offered to verify the information and will follow up with Mr. Lettice.

The tentative date for mailout of the industry questionnaire is July 15. Based on this date, EPA anticipates that information from completed surveys will start to be compiled and entered into a database beginning mid to late August and data analysis will begin in late September. [It is anticipated that data entry will continue through the fall and that data analysis will continue through January 1999.]

ATTACHMENT A

Agenda Plastic Parts Surface Coating Regulatory Stakeholder Subgroup Teleconference

**Tuesday, June 16, 1998 from 11 a.m - 12 p.m. (EST)
Call-in number (919) 541-4486**

- | | | | |
|-------|--|---|---------------------------|
| 11:00 | Introduction | - | Bruce Moore |
| | <ul style="list-style-type: none">• Roll call• Background information | | |
| 11:10 | Project Status | - | Bruce Moore/Greg DeAngelo |
| | <ul style="list-style-type: none">• P-MACT process and history• Site visits• Industry surveys/information collection• P-MACT document and role of the regulatory subgroup | | |
| 11:35 | Plan for P-MACT document | - | Bruce Moore |
| | <ul style="list-style-type: none">• Review of draft P-MACT by regulatory subgroup• Next meeting | | |
| 11:50 | Feedback: questions/comments/concerns | - | Subgroup participants |
| 12:00 | Adjourn | | |

ATTACHMENT B

TELECONFERENCE PARTICIPANTS

Karen Borel, U.S. Environmental Protection Agency, Region 4
Mike Bryant, Eastern Research Group, Inc.
Susan Buchanan, Eastern Research Group, Inc.
Stacey Coburn, Ohio Environmental Protection Agency
Greg DeAngelo, Eastern Research Group, Inc.
Fred Lettice, South Coast Air Quality Management District
Bruce Moore, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards
Van Phan, South Coast Air Quality Management District
Steve Rosenthal, U.S. Environmental Protection Agency, Region 5
Jason Schnepp, Illinois Environmental Protection Agency
(sitting in for Hank Naour, IL EPA)
Jerry Trautman, Michigan Department of Environmental Quality
(sitting in for Bob Irvine, MI DEQ)
Jerry Wamsley, U.S. Environmental Protection Agency, Region 9
Heather Wright, Eastern Research Group, Inc.

**Small Business Stakeholder Subgroup Teleconference
for Surface Coating of Plastic Parts**
Telecon Summary - June 25, 1998

The following is a summary of the first conference call of the small business stakeholder subgroup for the presumptive maximum achievable control technology (P-MACT) phase of the regulatory development process for the surface coating of plastic parts. The conference call was held on June 25, 1998. An agenda for the conference call is included as attachment A.

Teleconference participants are listed in attachment B.

Introduction

Bruce Moore, EPA's project lead, thanked the attendees for their participation. He explained that it is important for small businesses to participate in the regulatory process so that EPA can learn of constraints or special concerns that are unique to them. The EPA recognizes that it is usually less difficult for larger facilities to comply with a new rule, as they often have greater resources, such as research and development capabilities, than smaller businesses. Mr. Moore explained that EPA is in the data collection phase of the project and that information on control technologies, pollution prevention practices, and use of low HAP (hazardous air pollutants) and VOC (volatile organic compounds) coatings is being collected by various means, including site visits and industry questionnaires. Currently, EPA is nearing the end of the P-MACT process (to be finalized in September). The EPA will summarize in a P-MACT document the readily available data that has been collected to characterize the industry, emissions, and typical control techniques.

Ed Laird, Coating Resources Corporation, asked when EPA had begun a shift to the use of add-on pollution control devices rather than pollution prevention techniques. He indicated that it is often difficult for small businesses to comply with add-on control requirements, because installation is costly. In addition, Mr. Laird stated that with the increase in development of water-based coatings, the need for add-on controls to reduce emissions has lessened. Charles Logan, Florida Department of Environmental Protection Small Business Assistance Program, agreed that EPA should focus on pollution prevention and other source reduction techniques. Mr. Moore replied that pollution prevention is a priority within EPA. It is his intent that the rule

offer as much flexibility as possible so that businesses can choose how they want to comply, whether it be through the use of add-on controls, pollution prevention methods, low HAP and VOC coatings, or other techniques, alone or in combination. Mr. Laird stated that he is concerned that EPA is mandating the use of add-on controls in Region 9, and that the South Coast Air Quality Management District in California is requiring lowest achievable emission rate (LAER) technology. Mr. Moore pointed out that LAER is for new sources. He did not see that this issue could be addressed entirely under the MACT program. He reassured the group that pollution prevention techniques are being considered in the rule development.

Project Status

Greg DeAngelo, Eastern Research Group, Inc. (ERG), EPA's contractor for the plastic parts surface coating project, provided a brief summary on the status of the project. A total of three general stakeholder meetings have been held in Research Triangle Park, North Carolina. [A fourth meeting of the entire stakeholder group is tentatively scheduled for September. All small business subgroup participants will be added to the general stakeholder contact list to receive information on the project periodically, as well as notices for upcoming stakeholder meetings.]

Mr. DeAngelo stated that two of the meetings have been held jointly with the metal parts and products surface coating project because there is a significant overlap between both projects. For example, metal and plastic are often coated together in certain manufacturing industries, such as heavy duty truck manufacturing. The meetings were held jointly to address overlapping issues. The summaries of all stakeholder meetings are available for viewing at EPA's Technology Transfer Network (TTN) website [www.epa.gov/ttn/uatw/coat/plastic/plas_parts.html]. For those who do not have Internet access, these may be requested by contacting Heather Wright, ERG, at (919) 468-7890.

Site visits are an important part of EPA's information collection process as well. To date, five facilities have been visited. Three of the facility visits were conducted at heavy duty truck manufacturing sites and two were conducted at miscellaneous plastic products manufacturing sites. [Trip reports will be available in the project docket.] Upcoming site visits include two automotive assembly sites (one U.S. manufacturer and one international manufacturer), a facility which performs adhesives application, and at least one site using innovative technologies, such as ultraviolet (UV) or powder coatings. Teleconference participants were asked to advise EPA of

any site visits to small businesses that they believe would be beneficial to the project. Mr. Moore listed trips to Houston and San Antonio, Texas in July, as well as to Michigan, Tennessee, Indiana, Iowa, and California later this summer. Mr. Moore explained that not all are directly related to the plastic parts coating project and that he is also the project lead for the metal parts and products surface coating project. Additional site visits that teleconference participants could suggest in or near those locations would be helpful. Justine Burt, Texas Natural Resource Conservation Commission Small Business Assistance Program, agreed to try and develop a list of sites to visit the week of July 6 during EPA's trip to Texas. Mr. Logan agreed that EPA should visit some small plastics coating facilities and offered to provide EPA with potential locations for site visits in Florida. He encouraged the participants to let him know if they had any candidate sites in Florida. In addition, Mr. Laird offered to work with EPA to determine potential site visits in California stating that there are several toy, computer, and electronics manufacturers that may be able to provide EPA with useful information. Mr. Moore asked that any site visit information be sent to him via E-mail at moore.bruce@epamail.epa.gov.

Ms. Burt asked if site visits are performed in conjunction with inspectors or other representatives of the State agencies. Mr. Moore explained that EPA notifies State agencies as a courtesy that a site visit is being performed, but they typically do not visit sites together as this sometimes inhibits the exchange of information. Mr. Logan raised the concern of maintaining confidential information gathered in site visits. Mr. Moore stated that EPA is aware of confidentiality issues as well, and that EPA has special procedures for protecting confidential information. Prior to conducting a site visit, EPA notifies the facility in writing, the procedures for handling confidential business information (CBI).

Mr. Moore indicated that with the advent of the Small Business Regulatory Enforcement Fairness Act (SBREFA), EPA is required to determine potential impacts of the rule to small businesses. Mr. Moore introduced Deborah Elmore, who is the SBREFA coordinator for EPA's Office of Air Quality Planning and Standards. Ms. Elmore stressed the importance of small business participation in the regulatory process. The EPA cannot develop a rule that takes into account the issues of small businesses, unless they receive information on how small businesses will be affected. She encouraged the participants to raise their issues with Mr. Moore and express ideas on how best to solve them as well. In addition, Ms. Elmore suggested that people to use the website for enhancing communications.

Mr. Moore explained that the EPA is collecting information to regulate both HAP and VOC emissions from the use of coatings on plastic parts. The MACT standard will apply to major sources of HAPs. As such, it is possible that a number of small businesses may not be impacted by the NESHAP (National Emissions Standards for Hazardous Air Pollutants). Section 183(e) may affect more small businesses by regulating the VOC content of coatings through a national rule or a control techniques guideline (CTG) document because the applicability threshold is lower than for the NESHAP. The CTG would affect small businesses in ozone nonattainment areas.

Fin Johnson, North Carolina Small Business Assistance Program, asked if EPA has considered establishing an applicability cutoff for plastic parts coating facilities in the NESHAP. Mr. Johnson said that there is a precedence for this in the Wood Furniture NESHAP. He also thought that the CTG for the wood furniture source category applied to all facilities regardless of size. Ms. Elmore stated that this is the type of information that people should discuss with EPA, as EPA can use precedence developed in previous rules as guidance for new rules. Mr. Johnson added that the baseline year that is established in the MACT rules is another area of concern with small businesses. Again, he referenced the Wood Furniture NESHAP, which accommodated facilities that had made earlier emissions reductions. Mr. Laird also encouraged the EPA to consider the facilities that have made previous emission reductions. Ms. Burt also asked if applicability to the rule will be based on "potential to emit" and whether EPA has made any determinations on how "potential to emit" will be defined. Mr. Moore said that no such determinations have yet been made.

Mr. Moore indicated that EPA is also preparing to distribute an industry questionnaire. A generic questionnaire has been developed by EPA for use by all the MACT projects, but EPA may develop alternative, project-specific questionnaires. Mr. Moore stated that EPA is in the process of developing an alternative to the generic questionnaire that is tailored specifically for the plastic parts surface coating project. A draft of the alternative questionnaire is also posted on EPA's TTN website. Mr. Moore invited the small business subgroup participants to review the draft questionnaire and provide written comments to Mr. DeAngelo by July 1. The questionnaire is scheduled to be distributed in late July with eight weeks to reply. Thus, the results of the information collection will not be incorporated into the P-MACT document. Data analysis is scheduled to be completed by the end of the calendar year.

Dave Darling, National Paint and Coatings Association (NPCA), was concerned that the definitions used in the various coating questionnaires being developed simultaneously for the ten different MACT coating projects are not consistent. He said that the NPCA has reviewed several of the surveys and that, in many cases, the definitions are not the same from project questionnaire to project questionnaire. Mr. Moore said that the projects had planned to use a common set of definitions and that he would investigate why there are discrepancies. Mr. Darling also asked about how CBI provided on the questionnaires is managed. Mr. Moore said that CBI is handled in the same manner by EPA as it is for the site visits.

Ms. Burt asked if the universe of the plastic parts surface coating industry has been defined by Standard Industrial Classification (SIC) codes. Mr. Moore explained that it is difficult to determine all the potentially affected SIC codes for this category, because there are no codes specific to the painting or coating of plastics. As such, many different types of businesses may perform plastic parts coating under various manufacturing codes. Ms. Burt gave an example and asked if sign painters would be covered under the rule. She stated that there are over 1,000 sign painters in Texas who probably use 10 gallons of paint or less a month. Mr. Moore said that because such a small amount of paint is used, they probably would not qualify as a major source for the NESHAP, but they may be subject to the CTG. Again, Ms. Elmore pointed out that this type of information is useful to EPA and should be brought forward.

Mr. Moore stated that adhesives use is also being covered by the rule. Thus, there is the potential that facilities who do not paint plastics, but assemble them, will be covered as well. Mr. Johnson asked whether Mylar plates used in printing applications would be covered. Mr. Moore said that the coating of those plates for printing purposes would probably be covered under another NESHAP, such as printing or paper and other web, but he will look into it.

ATTACHMENT A

Agenda

Plastic Parts Surface Coating Small Business Stakeholder Subgroup Teleconference

**Thursday, June 25, 1998 from 2 p.m - 3 p.m. (EST)
Call-in number (919) 541-4486**

2:00 Introduction

- Roll call
- Background information on the plastic parts project
- Purpose in forming the group

2:10 Project Status

- P-MACT process concluding
- P-MACT document
- Stakeholder meetings
- Site visits
- Industry surveys/information collection

2:25 Small Business Involvement

- Identifying and contacting small business representatives
- Identifying issues unique to small businesses
- Collecting survey data from small businesses

2:40 Feedback: questions/comments/concerns

3:00 Adjourn

ATTACHMENT B

TELECONFERENCE PARTICIPANTS

Lilian Austin, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards (summer intern)

Ed Bernheim, Exxene Corporation

Susan Buchanan, Eastern Research Group, Inc.

Justine Burt, Texas NRCC Small Business Assistance Program

Mark Collatz, Adhesive and Sealant Council

Dave Darling, National Paint and Coatings Association

(sitting in for Bob Nelson, National Paint and Coatings Association)

Greg DeAngelo, Eastern Research Group, Inc.

Deborah Elmore, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards

Jennifer Haywood, Society of Plastics Industry

(sitting in for Lynne Harris, Society of Plastics Industry)

Fin Johnson, North Carolina Small Business Assistance Program

Ed Laird, Coating Resources Corporation

Charles Logan, Florida DEP Small Business Assistance Program

Tejuan Manners, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards (summer intern)

John Melby, Wisconsin DNR Small Business Assistance Program

Bruce Moore, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards

Tom Murphy, Coating Resources Corporation

Jim Newnon, Indiana Clean Manufacturing Technology Institute

Kim Teal, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards

Heather Wright, Eastern Research Group, Inc.

APPENDIX E

NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR SURFACE COATING OF PLASTIC PARTS FOR BUSINESS MACHINES

[Code of Federal Regulations]
[Title 40, Volume 6, Part 60]
[Revised as of July 1, 1997]
From the U.S. Government Printing Office via GPO Access
[CITE: 40CFR60]

[Page 516-520]

TITLE 40--PROTECTION OF ENVIRONMENT

CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY

PART 60--STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES--Table of Contents

Subpart TTT--Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines

Source: 53 FR 2676, Jan. 29, 1988, unless otherwise noted.

Sec. 60.720 Applicability and designation of affected facility.

(a) The provisions of this subpart apply to each spray booth in which plastic parts for use in the manufacture of business machines receive prime coats, color coats, texture coats, or touch-up coats.

(b) This subpart applies to any affected facility for which construction, modification, or reconstruction begins after January 8, 1986.

Sec. 60.721 Definitions.

(a) As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of this part.

Business machine means a device that uses electronic or mechanical methods to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission, such as:

- (1) Products classified as typewriters under SIC Code 3572;
- (2) Products classified as electronic computing devices under SIC Code 3573;
- (3) Products classified as calculating and accounting machines under SIC Code 3574;
- (4) Products classified as telephone and telegraph equipment under SIC Code 3661;
- (5) Products classified as office machines, not elsewhere classified, under SIC Code 3579; and

(6) Photocopy machines, a subcategory of products classified as photographic equipment under SIC code 3861.

Coating operation means the use of a spray booth for the application of a single type of coating (e.g., prime coat); the use of the same spray booth for the application of another type of coating (e.g., texture coat) constitutes a separate coating operation for which compliance determinations are performed separately.

Coating solids applied means the coating solids that adhere to the surface of the plastic business machine part being coated.

Color coat means the coat applied to a part that affects the color and gloss of the part, not including the prime coat or texture coat. This definition includes fog coating, but does not include conductive sensitizers or electromagnetic interference/radio frequency interference shielding coatings.

Conductive sensitizer means a coating applied to a plastic substrate to render it conductive for purposes of electrostatic application of subsequent prime, color, texture, or touch-up coats.

Electromagnetic interference/radio frequency interference (EMI/RFI) shielding coating means a conductive coating that is applied to a plastic substrate to attenuate EMI/RFI signals.

Fog coating (also known as mist coating and uniforming) means a thin coating applied to plastic parts that have molded-in color or texture or both to improve color uniformity.

Nominal 1-month period means either a calendar month, 30-day month, accounting month, or similar monthly time period that is established prior to the performance test (i.e., in a statement submitted with notification of anticipated actual startup pursuant to 40 CFR 60.7(2)).

Plastic parts means panels, housings, bases, covers, and other business machine components formed of synthetic polymers.

Prime coat means the initial coat applied to a part when more than one coating is applied, not including conductive sensitizers or electromagnetic interference/radio frequency interference shielding coatings.

Spray booth means the structure housing automatic or manual spray application equipment where a coating is applied to plastic parts for business machines.

Texture coat means the rough coat that is characterized by discrete, raised spots on the exterior surface of the part. This definition does not include conductive sensitizers or EMI/RFI shielding coatings.

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Touch-up coat means the coat applied to correct any imperfections in the finish after color or texture coats have been applied. This definition does not include conductive sensitizers or EMI/RFI shielding coatings.

Transfer efficiency means the ratio of the amount of coating solids deposited onto the surface of a plastic business machine part to the total amount of coating solids used.

VOC emissions means the mass of VOC's emitted from the surface coating of plastic parts for business machines expressed as kilograms of VOC's per liter of coating solids applied (i.e., deposited on the surface).

(b) All symbols used in this subpart not defined below are given meaning in the Act or subpart A of this part.

D_c = density of each coating as received (kilograms per liter)

D_d = density of each diluent VOC (kilograms per liter)

L_c = the volume of each coating consumed, as received (liters)

L_d = the volume of each diluent VOC added to coatings (liters)

L_s = the volume of coating solids consumed (liters)

M_d = the mass of diluent VOC's consumed (kilograms)

M_o = the mass of VOC's in coatings consumed, as received (kilograms)

N = the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter)

T = the transfer efficiency for each type of application equipment used at a coating operation (fraction)

T_{avg} = the volume-weighted average transfer efficiency for a coating operation (fraction)

V_s = the proportion of solids in each coating, as received (fraction by volume)

W_o = the proportion of VOC's in each coating, as received (fraction by weight)

[53 FR 2676, Jan. 29, 1988, as amended at 54 FR 25459, June 15, 1989]

Sec. 60.722 Standards for volatile organic compounds.

(a) Each owner or operator of any affected facility which is subject to the requirements of this subpart shall comply with the emission limitations set forth in this section on and after the date on which the initial performance test, required by Secs. 60.8 and 60.723 is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial startup, whichever date comes first. No affected facility shall cause the discharge into the atmosphere in excess of:

(1) 1.5 kilograms of VOC's per liter of coating solids applied from prime coating of plastic parts for business machines.

(2) 1.5 kilograms of VOC's per liter of coating solids applied from color coating of plastic parts for business machines.

(3) 2.3 kilograms of VOC's per liter of coating solids applied from

texture coating of plastic parts for business machines.

(4) 2.3 kilograms of VOC's per liter of coatings solids applied from touch-up coating of plastic parts for business machines.

(b) All VOC emissions that are caused by coatings applied in each affected facility, regardless of the actual point of discharge of emissions into the atmosphere, shall be included in determining compliance with the emission limits in paragraph (a) of this section.

Sec. 60.723 Performance tests and compliance provisions.

(a) Section 60.8 (d) and (f) do not apply to the performance test procedures required by this section.

(b) The owner or operator of an affected facility shall conduct an initial performance test as required under Sec. 60.8(a) and thereafter a performance test each nominal 1-month period for each affected facility according to the procedures in this section.

(1) The owner or operator shall determine the composition of coatings by analysis of each coating, as received, using Reference Method 24, from data that have been determined by the coating manufacturer using Reference Method 24, or by other methods approved by the Administrator.

(2) The owner or operator shall determine the volume of coating and the mass of VOC used for dilution of coatings from company records during each nominal 1-month period. If a common coating distribution system serves more than one affected facility or serves both affected and nonaffected spray booths, the owner or operator

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shall estimate the volume of coatings used at each facility by using procedures approved by the Administrator.

(i) The owner or operator shall calculate the volume-weighted average mass of VOC's in coatings emitted per unit volume of coating solids applied (N) at each coating operation [i.e., for each type of coating (prime, color, texture, and touch-up) used] during each nominal 1-month period for each affected facility. Each 1-month calculation is considered a performance test. Except as provided in paragraph (b)(2)(iii) of this section, N will be determined by the following procedures:

(A) Calculate the mass of VOC's used ($M_o + M_d$) for each coating operation during each nominal 1-month period for each affected facility by the following equation:

[GRAPHIC] [TIFF OMITTED] TC01JN92.064

where n is the number of coatings of each type used during each nominal 1-month period and m is the number of different diluent VOC's used

during each nominal 1-month period.

($\sum_{j=1}^n D_j$ will be 0 if no VOC's are added to the coatings, as received.)

(B) Calculate the total volume of coating solids consumed ($\sum_{j=1}^n V_j$) in each nominal 1-month period for each coating operation for each affected facility by the following equation:
[GRAPHIC] [TIFF OMITTED] TC01JN92.065

where n is the number of coatings of each type used during each nominal 1-month period.

(C) Select the appropriate transfer efficiency (T) from Table 1 for each type of coating applications equipment used at each coating operation. If the owner or operator can demonstrate to the satisfaction of the Administrator that transfer efficiencies other than those shown are appropriate, the Administrator will approve their use on a case-by-case basis. Transfer efficiency values for application methods not listed below shall be approved by the Administrator on a case-by-case basis. An owner or operator must submit sufficient data for the Administrator to judge the validity of the transfer efficiency claims.

(D) Where more than one application method is used within a single coating operation, the owner or operator shall determine the volume of each coating applied by each method through a means acceptable to the Administrator and compute the volume-weighted average transfer efficiency by the following equation:
[GRAPHIC] [TIFF OMITTED] TC01JN92.066

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Table 1--Transfer Efficiencies

| Application methods | Transfer | |
|---------------------------------|------------|---|
| | efficiency | Type of coating |
| Air atomized spray..... | 0.25 | Prime, color, texture, touch-up, and fog coats. |
| Air-assisted airless spray..... | .40 | Prime and color coats. |
| Electrostatic air spray..... | .40 | Do. |

where n is the number of coatings of each type used and p is the number of application methods used.

(E) Calculate the volume-weighted average mass of VOC's emitted per unit volume of coating solids applied (N) during each nominal 1-month

period for each coating operation for each affected facility by the following equation:

$$N = \frac{M_o + M_d}{L_s T_{avg}}$$

($T_{avg} = T$ when only one type of coating operation occurs).

(ii) Where the volume-weighted average mass of VOC's emitted to the atmosphere per unit volume of coating solids applied (N) is less than or equal to 1.5 kilograms per liter for prime coats, is less than or equal to 1.5 kilograms per liter for color coats, is less than or equal to 2.3 kilograms per liter for texture coats, and is less than or equal to 2.3 kilograms per liter for touch-up coats, the affected facility is in compliance.

(iii) If each individual coating used by an affected facility has a VOC content (kg VOC/l of solids), as received, which when divided by the lowest transfer efficiency at which the coating is applied for each coating operation results in a value equal to or less than 1.5 kilograms per liter for prime and color coats and equal to or less than 2.3 kilograms per liter for texture and touch-up coats, the affected facility is in compliance provided that no VOC's are added to the coatings during distribution or application.

(iv) If an affected facility uses add-on controls to control VOC emissions and if the owner or operator can demonstrate to the Administrator that the volume-weighted average mass of VOC's emitted to the atmosphere during each nominal 1-month period per unit volume of coating solids applied (N) is within each of the applicable limits expressed in paragraph (b)(2)(ii) of this section because of this equipment, the affected facility is in compliance. In such cases, compliance will be determined by the Administrator on a case-by-case basis.

Sec. 60.724 Reporting and recordkeeping requirements.

(a) The reporting requirements of Sec. 60.8(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this subpart shall include the following data in the report of the initial performance test required under Sec. 60.8(a):

(1) Except as provided for in paragraph (a)(2) of this section, the volume-weighted average mass of VOC's emitted to the atmosphere per

volume of applied coating solids (N) for the initial nominal 1-month period for each coating operation from each affected facility.

(2) For each affected facility where compliance is determined under the provisions of Sec. 60.723(b)(2)(iii), a list of the coatings used during the initial nominal 1-month period, the VOC content of each coating calculated from data determined using Reference Method 24, and the lowest transfer efficiency at which each coating is applied during the initial nominal 1-month period.

(b) Following the initial report, each owner or operator shall:

(1) Report the volume-weighted average mass of VOC's per unit volume of coating solids applied for each coating operation for each affected facility during each nominal 1-month period in which the facility is not in compliance with the applicable emission limits specified in Sec. 60.722. Reports of noncompliance shall be submitted on a quarterly basis, occurring every 3 months following the initial report; and

(2) Submit statements that each affected facility has been in compliance with the applicable emission limits specified in Sec. 60.722 during each nominal 1-month period. Statements of compliance shall be submitted on a semiannual basis.

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(c) These reports shall be postmarked not later than 10 days after the end of the periods specified in Sec. 60.724(b)(1) and Sec. 60.724(b)(2).

(d) Each owner or operator subject to the provisions of this subpart shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each coating operation for each affected facility as specified in 40 CFR 60.7(d).

(e) Reporting and recordkeeping requirements for facilities using add-on controls will be determined by the Administrator on a case-by-case basis.

Sec. 60.725 Test methods and procedures.

(a) The reference methods in appendix A to this part except as provided under Sec. 60.8(b) shall be used to determine compliance with Sec. 60.722 as follows:

(1) Method 24 for determination of VOC content of each coating as received.

(2) For Method 24, the sample must be at least a 1-liter sample in a 1-liter container.

(b) Other methods may be used to determine the VOC content of each coating if approved by the Administrator before testing.

Sec. 60.726 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to the States:

Section 60.723(b)(1)

Section 60.723(b)(2)(i)(C)

Section 60.723(b)(2)(iv)

Section 60.724(e)

Section 60.725(b)

[53 FR 2676, Jan. 29, 1988, as amended at 53 FR 19300, May 27, 1988]

APPENDIX F

SUMMARY OF STATE RULES

APPENDIX F. SUMMARY OF STATE RULES

| Regulation | Description | Limit |
|-------------------|---|---|
| California | South Coast Air Quality Management | |
| Rule 1145 | Plastic, Rubber, and Glass Coating | |
| | General, one component | 2.3 lb VOC/gal coating applied ¹ |
| | General, two component | 3.5 lb VOC/gal coating applied ¹ |
| | Military spec, one component | 2.8 lb VOC/gal coating applied ¹ |
| | Military spec, two component | 3.5 lb VOC/gal coating applied ¹ |
| | Multi-colored | 5.7 lb VOC/gal coating applied ¹ |
| | Mold seal | 6.3 lb VOC/gal coating applied ¹ |
| | Vacuum metalizing | 6.7 lb VOC/gal coating applied ¹ |
| | Mirror backing curtain | 4.2 lb VOC/gal coating applied ¹ |
| | Roll coated | 3.6 lb VOC/gal coating applied ¹ |
| | Optical | 6.7 lb VOC/gal coating applied ¹ |
| | Electric cissinging | 6.7 lb VOC/gal coating applied ¹ |
| | Metallic | 3.5 lb VOC/gal coating applied ¹ |
| | General automotive | 4.3 lb VOC/gal coating applied ¹ |
| | Metallic automotive | 5.0 lb VOC/gal coating applied ¹ |
| | Stripping/Surface Prep/Cleanup | 200 g VOC/L coating applied ¹ |
| California | Bay Area Air Quality Management District | |
| Regulation 8 | Organic Compounds | |
| Rule 31 | Surface Coating of Plastic Parts and Products | |
| | <i>General</i> | 2.8 lb VOC/gal ² |
| | <i>Flexible coatings</i> | |
| | Primer | 4.1 lb VOC/gal ² |
| | Color topcoat | 3.8 lb VOC/gal ² |
| | Basecoat/clearcoat (combined system) | 4.5 lb VOC/gal ² |
| | <i>Specialty Coatings</i> | |
| | Camouflage | 3.5 lb VOC/gal ² |
| | Conductive (shielding) | 5.8 lb VOC/gal ² |
| | Metallic topcoat | 3.5 lb VOC/gal ² |
| | Extreme performance | 6.2 lb VOC/gal ² |

APPENDIX F. SUMMARY OF STATE RULES (CONTINUED)

| Regulation | Description | Limit |
|-----------------|--|-------------------------------------|
| | High gloss | 3.5 lb VOC/gal ² |
| | Optical | 6.7 lb VOC/gal ² |
| Delaware | | |
| Section 12 | Automobile and Truck | |
| | <i>Auto Interiors</i> | |
| | High Bake Colorcoat | 4.1 lb VOC/gal coating ¹ |
| | High Bake Primer | 3.8 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat | 3.2 lb VOC/gal coating ¹ |
| | Low Bake Primer | 3.5 lb VOC/gal coating ¹ |
| | <i>Auto Exteriors</i> (Flexible and Nonflexible unless otherwise noted) | |
| | High Bake Colorcoat | 4.6 lb VOC/gal coating ¹ |
| | High Bake Clearcoat | 4.3 lb VOC/gal coating ¹ |
| | High Bake Primer (Flexible) | 5.0 lb VOC/gal coating ¹ |
| | High Bake Primer (Nonflexible) | 4.5 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat (Red & Black) | 5.6 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat | 5.1 lb VOC/gal coating ¹ |
| | Low Bake Primer | 5.5 lb VOC/gal coating ¹ |
| | Low Bake Clear | 4.5 lb VOC/gal coating ¹ |
| | <i>Automotive Speciality</i> | |
| | Group A-1 Coatings: Vacuum Metalizing, Basecoats, Texture Basecoats | 5.5 lb VOC/gal coating ¹ |
| | Group A-2 Coatings: Black & Reflective, Argent, Air Bag Cover, Soft Coatings | 5.9 lb VOC/gal coating ¹ |
| | Group B Coatings: Gloss Reducers, Vacuum Metalizing, Topcoats, Textured Topcoats | 6.4 lb VOC/gal coating ¹ |
| | Group B Coatings: Stencil, Adhesion Primer/Promoter, Ink Pad, Electrostatic Prep, Resist | 6.8 lb VOC/gal coating ¹ |
| | Headlight Lens Coating | 7.4 lb VOC/gal coating ¹ |
| | <i>Business Machines, General</i> | |
| | Primer | 1.2 lb VOC/gal ³ |

APPENDIX F. SUMMARY OF STATE RULES (CONTINUED)

| Regulation | Description | Limit |
|-----------------|--|-------------------------------------|
| | Color | 2.3 lb VOC/gal ³ |
| | Color/Texture | 2.3 lb VOC/gal ³ |
| | EMI/RFI | 4.0 lb VOC/gal ³ |
| | <i>Business Machines, Other Specialty Coatings</i> | |
| | Soft Coatings | 4.3 lb VOC/gal ³ |
| | Plating Resist | 5.9 lb VOC/gal ³ |
| | Plating Sensitizers | 7.1 lb VOC/gal ³ |
| Illinois | | |
| Section 218 | Automobile and Truck | |
| | <i>Auto Interiors</i> | |
| | High Bake Colorcoat | 4.1 lb VOC/gal coating ¹ |
| | High Bake Primer | 3.8 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat | 3.2 lb VOC/gal coating ¹ |
| | Low Bake Primer | 3.5 lb VOC/gal coating ¹ |
| | <i>Auto Exteriors</i> (Flexible and Nonflexible unless otherwise noted) | |
| | High Bake Colorcoat | 4.6 lb VOC/gal coating ¹ |
| | High Bake Clearcoat | 4.3 lb VOC/gal coating ¹ |
| | High Bake Primer (Flexible) | 5.0 lb VOC/gal coating ¹ |
| | High Bake Primer (Nonflexible) | 4.5 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat (Red & Black) | 5.6 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat | 5.1 lb VOC/gal coating ¹ |
| | Low Bake Primer | 5.5 lb VOC/gal coating ¹ |
| | Low Bake Clear | 4.5 lb VOC/gal coating ¹ |
| | <i>Automotive Speciality</i> | |
| | Group A-1 Coatings: Vacuum Metalizing, Basecoats, Texture Basecoats | 5.5 lb VOC/gal coating ¹ |
| | Group A-2 Coatings: Black & Reflective, Argent, Air Bag Cover, Soft Coatings | 5.9 lb VOC/gal coating ¹ |
| | Group B Coatings: Gloss Reducers, Vacuum Metalizing, Topcoats, Textured Topcoats | 6.4 lb VOC/gal coating ¹ |

APPENDIX F. SUMMARY OF STATE RULES (CONTINUED)

| Regulation | Description | Limit |
|---|--|-------------------------------------|
| Illinois | | |
| Section 218 | Group B Coatings: Stencil, Adhesion Primer/ Promoter, Ink Pad, Electrostatic Prep, Resist | 6.8 lb VOC/gal coating ¹ |
| | Headlight Lens Coating | 7.4 lb VOC/gal coating ¹ |
| | <i>Business Machines, General</i> | |
| | Primer | 1.2 lb VOC/gal ³ |
| | Color | 2.3 lb VOC/gal ³ |
| | Color/Texture | 2.3 lb VOC/gal ³ |
| | EMI/RFI | 4.0 lb VOC/gal ³ |
| | <i>Business Machines, Other Specialty Coatings</i> | |
| | Soft Coatings | 4.3 lb VOC/gal ³ |
| | Plating Resist | 5.9 lb VOC/gal ³ |
| | Plating Sensitizers | 7.1 lb VOC/gal ³ |
| Maryland | | |
| (.03) | Automotive and Light-Duty Truck Coating and Associated Component Supplier Industries | |
| | <i>Plastic parts coating</i> | 4.8 lb VOC/gal ² |
| (.07) | Paper, Fabric, Vinyl and Other Plastic Parts Coating | |
| | <i>Plastic parts coating</i> | 3.0 lb VOC/gal ² |
| Massachusetts | | |
| Surface Coating of Plastic Parts (Section 21) | RACT Limits on VOC content of coatings | |
| | <i>Business Machine Coatings and Miscellaneous Plastic Parts (without add-on controls)</i> | |
| | Primer | 1.4 lbs VOC/gal solids as applied |
| | Color | 3.4 lbs VOC/gal solids as applied |
| | Color/Texture | 3.4 lbs VOC/gal solids as applied |
| | EMI/RFI | 8.8 lbs VOC/gal solids as applied |
| | <i>Automotive Coating, Auto Interiors (without add-on controls)</i> | |
| | | |
| | | |
| | | |

APPENDIX F. SUMMARY OF STATE RULES (CONTINUED)

| Regulation | Description | Limit |
|------------|---|------------------------------------|
| | Colorcoat | 5.7 lbs VOC/gal solids as applied |
| | Primer | 6.7 lbs VOC/gal solids as applied |
| | <i>Automotive Coating, Auto Exteriors (without add-on controls)</i> | |
| | Colorcoat (Flexible) | 9.3 lbs VOC/gal solids as applied |
| | Clearcoat (Flexible) | 6.7 lbs VOC/gal solids as applied |
| | Primer (Flexible) | 11.6 lbs VOC/gal solids as applied |
| | Colorcoat (Nonflexible) | 9.3 lbs VOC/gal solids as applied |
| | Clearcoat (Nonflexible) | 6.7 lbs VOC/gal solids as applied |
| | Primer (Nonflexible) | 6.7 lbs VOC/gal solids as applied |
| | <i>Business Machine Coatings and Miscellaneous Plastic Parts (with add-on controls)</i> | |
| | Primer | 1.4 lbs VOC/gal solids as applied |
| | Color | 1.7 lbs VOC/gal solids as applied |
| | Color/Texture | 1.7 lbs VOC/gal solids as applied |
| | EMI/RFI | 1.9 lbs VOC/gal solids as applied |
| | <i>Automotive Coating, Auto Interiors (with add-on controls)</i> | |
| | Colorcoat | 3.6 lbs VOC/gal solids as applied |
| | Primer | 1.4 lbs VOC/gal solids as applied |
| | <i>Automotive Coating, Auto Exteriors (with add-on controls)</i> | |
| | Colorcoat (Flexible) | 2.8 lbs VOC/gal solids as applied |
| | Clearcoat (Flexible) | 2.4 lbs VOC/gal solids as applied |
| | Primer (Flexible) | 4.8 lbs VOC/gal solids as applied |
| | Colorcoat (Nonflexible) | 2.8 lbs VOC/gal solids as applied |
| | Clearcoat (Nonflexible) | 2.4 lbs VOC/gal solids as applied |
| | Primer (Nonflexible) | 3.6 lbs VOC/gal solids as applied |

APPENDIX F. SUMMARY OF STATE RULES (CONTINUED)

| Regulation | Description | Limit |
|----------------------|--|--------------------------------------|
| Michigan | | |
| (R 336.1632) | Emissions of VOCs from existing automobile, truck , and business machine plastic parts coating lines | |
| | <i>Automobile and Truck, High Bake Prime</i> | |
| | Flexible coating | 4.5 lbs VOC/gal coating ² |
| | Nonflexible coating | 3.5 lbs VOC/gal coating ² |
| | <i>Automobile and Truck, High Bake Coating</i> | |
| | Basecoat | 4.3 lbs VOC/gal coating ² |
| | Clearcoat | 4.0 lbs VOC/gal coating ² |
| | Other | 4.3 lbs VOC/gal coating ² |
| | <i>Automobile and Truck, Air-dried Prime (exterior parts)</i> | |
| | Prime | 4.8 lbs VOC/gal coating ² |
| | <i>Automobile and Truck, Air-dried Coating (exterior parts)</i> | |
| | Basecoat | 5.0 lbs VOC/gal coating ² |
| | Clearcoat | 4.5 lbs VOC/gal coating ² |
| | Other | 5.0 lbs VOC/gal coating ² |
| | <i>Automobile and Truck, Air-dried Coating (interior parts)</i> | |
| | All | 5.0 lbs VOC/gal coating ² |
| | <i>Automobile and Truck, Touch-up and repairs</i> | |
| | All | 5.2 lbs VOC/gal coating ² |
| | <i>Business Machines</i> | |
| | Prime | 2.9 lbs VOC/gal coating ² |
| | Topcoat | 2.9 lbs VOC/gal coating ² |
| | Texture Coat | 2.9 lbs VOC/gal coating ² |
| | Fog Coat | 2.2 lbs VOC/gal coating ² |
| | Touch-up and repair | 2.9 lbs VOC/gal coating ² |
| New Hampshire | | |
| Env-A 1204.16 | Automobile and Truck | |
| | <i>Auto Interiors</i> | |

APPENDIX F. SUMMARY OF STATE RULES (CONTINUED)

| Regulation | Description | Limit |
|---------------|--|-------------------------------------|
| | High Bake Colorcoat | 4.1 lb VOC/gal coating ¹ |
| | High Bake Primer | 3.8 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat | 3.2 lb VOC/gal coating ¹ |
| | Low Bake Primer | 3.5 lb VOC/gal coating ¹ |
| | <i>Auto Exteriors</i> (Flexible and Nonflexible unless otherwise noted) | |
| | High Bake Colorcoat | 4.6 lb VOC/gal coating ¹ |
| | High Bake Clearcoat | 4.3 lb VOC/gal coating ¹ |
| | High Bake Primer (Flexible) | 5.0 lb VOC/gal coating ¹ |
| | High Bake Primer (Nonflexible) | 4.5 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat (Red & Black) | 5.6 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat | 5.1 lb VOC/gal coating ¹ |
| | Low Bake Primer | 5.5 lb VOC/gal coating ¹ |
| | Low Bake Clear | 4.5 lb VOC/gal coating ¹ |
| | <i>Automotive Speciality</i> | |
| | Group A-1 Coatings: Vacuum Metalizing, Basecoats, Texture Basecoats | 5.5 lb VOC/gal coating ¹ |
| | Group A-2 Coatings: Black & Reflective, Argent, Air Bag Cover, Soft Coatings | 5.5 lb VOC/gal coating ¹ |
| | Group B Coatings: Gloss Reducers, Vacuum Metalizing, Topcoats, Textured Topcoats | 6.4 lb VOC/gal coating ¹ |
| | Group B Coatings: Stencil, Adhesion Primer/Promoter, Ink Pad, Electrostatic Prep, Resist | 6.8 lb VOC/gal coating ¹ |
| | Headlight Lens Coating | 7.4 lb VOC/gal coating ¹ |
| Env-A 1204.16 | <i>Business Machine, General</i> | |
| | Primer | 1.2 lb VOC/gal ³ |
| | Color | 2.3 lb VOC/gal ³ |
| | Color/Texture | 2.3 lb VOC/gal ³ |
| | EMI/RFI | 4.0 lb VOC/gal ³ |
| | <i>Business Machines, Other Specialty Coatings</i> | |
| | Soft Coatings | 4.3 lb VOC/gal ³ |
| | Plating Resist | 5.9 lb VOC/gal ³ |

APPENDIX F. SUMMARY OF STATE RULES (CONTINUED)

| Regulation | Description | Limit |
|------------------|--|-------------------------------------|
| | Plating Sensitizers | 7.1 lb VOC/gal ³ |
| New York | | |
| Part 228 | Surface Coating Processes | |
| | Color topcoats | 3.8 lb VOC/gal ¹ |
| | Clear Coats | 4.8 lb VOC/gal ¹ |
| Tennessee | | |
| (1200-3-18.44) | Automobile and Truck | |
| | <i>Auto Interiors</i> | |
| | High Bake Colorcoat | 4.1 lb VOC/gal coating ¹ |
| | High Bake Primer | 3.8 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat | 3.2 lb VOC/gal coating ¹ |
| | Low Bake Primer | 3.5 lb VOC/gal coating ¹ |
| | <i>Auto Exteriors</i> (Flexible and Nonflexible unless otherwise noted) | |
| | High Bake Colorcoat | 4.7 lb VOC/gal coating ¹ |
| | High Bake Clearcoat | 4.3 lb VOC/gal coating ¹ |
| | High Bake Primer (Flexible) | 5.0 lb VOC/gal coating ¹ |
| | High Bake Primer (Nonflexible) | 4.5 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat (Red & Black) | 5.6 lb VOC/gal coating ¹ |
| | Low Bake Colorcoat | 5.1 lb VOC/gal coating ¹ |
| | Low Bake Primer | 5.5 lb VOC/gal coating ¹ |
| | Low Bake Clear | 4.5 lb VOC/gal coating ¹ |
| | <i>Automotive Speciality</i> | |
| | Group A-1 Coatings: Vacuum Metalizing, Basecoats, Texture Basecoats | 5.5 lb VOC/gal coating ¹ |
| | Group A-2 Coatings: Black & Reflective, Argent, Air Bag Cover, Soft Coatings | 5.9 lb VOC/gal coating ¹ |
| | Group B Coatings: Gloss Reducers, Vacuum Metalizing, Topcoats, Textured Topcoats | 6.4 lb VOC/gal coating ¹ |

APPENDIX F. SUMMARY OF STATE RULES (CONTINUED)

| Regulation | Description | Limit |
|----------------|--|-------------------------------------|
| | Group B Coatings: Stencil, Adhesion Primer/ Promoter, Ink Pad, Electrostatic Prep, Resist | 6.8 lb VOC/gal coating ¹ |
| | Headlight Lens Coating | 7.4 lb VOC/gal coating ¹ |
| (1200-3-18.44) | Miscellaneous plastic parts | |
| | Primer | 1.2 lb VOC/gal solids |
| | Color | 2.3 lb VOC/gal solids |
| | Color/Texture | 2.3 lb VOC/gal solids |
| | EMI/RFI | 2.5 lb VOC/gal solids |

¹ Less water and exempt compounds

² Less water, as applied

³ Less water and non-VOC organic compounds

APPENDIX G
COMMENTS RECEIVED

(Comments are unavailable electronically, please refer to docket copy.)